THE BUILDER

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ARCHITECTURE & THE BRITISH ARCHITECT

THE BUILDER HOUSE, CATHERINE STREET, ALDWYCH, LONDON, W.C.2. Telephones: Temple Bar 6251-2-3-4

VOL. CLXXXV OCTOBER 30, 1953 No. 5776

THIS WEEK'S NEWS

SIR BANISTER FLETCHER, in his will just published, has made numerous bequests, to the RIBA and other institutions. p. 665

THE NEW CLAIM by the operatives for 9d. an hour increase in wages was difficult to justify, said Mr. Wilfred Horsfall, president NFBTE, at Darlington recently. p. 673

THE REPORT of the Monopolies Commission on imported hardwood and softwood, published on Tuesday, states that while no evidence of any price-ring on a national scale has been found, it is nevertheless recommended that certain trading agreements and undertakings on which the system rests are contrary to the public interest, and should be abrogated p. 675

THERE are probably a million houses in England and Wales which ought to be written off as unfit for habitation, because they cannot be restored at a reasonable cost, according to the National Housing and Town Planning Council's survey of housing conditions, initiated last June. p. 677

AN EXMOUTH FIRM of builders has completed 12 *houses, together with drainage, fencing and paths, within a period of* 11 *weeks.* p. 678

A CIRCULAR issued to local authorities by the Ministry of Housing makes it clear that, as from December 20 *next, licences for new houses or for conversions should be issued without any condition restricting the figure at which they may be let or sold.* p. 679

FALSE ECONOMIES IN RESEARCH

THE report of the Building Research Board for 1952, published earlier this month, contains some very disappointing news. The Board were told, for reasons of national economy, to reduce the non-industrial staff of the Building Research Station to 420 as compared with 477 actually in post on January 1, 1952. It is obvious that a cut of over ten per cent. could not be made without seriously affecting the Station's programme of work, but the cut was all the more serious because the Station was already suffering from a shortage of staff—a matter which had been commented on in the previous year's report.

The Board were thus faced with a difficult problem, but they seem to have tackled it on the right lines. It was decided to maintain the advisory work as far as possible and, although this meant that the reduction had to fall mainly on the laboratory and field investigations, this was a sound decision. An extensive programme of research is of little value if the means do not exist to transmit its results to the industry. If the building industry had had the wisdom to set up the research and information organisation which is so clearly needed, it might not have been necessary for the BRS to sacrifice so much of its laboratory and field work. The building industry has for years past been paying a high price for its shortsightedness in not establishing its own organisation; the price of shortsightedness may be greater than ever in the future as a result of the cuts now imposed on the BRS.

In deciding what cuts should be made in the laboratory and field work, the Board found that the choice really lay between the older work of the Station and the newer work taken over in 1950 from the Ministry of Works. The Board decided that the cuts should fall in the main on the newer work. The resources of the older part of the Station were already strained in meeting well established and expanding needs; this seems to have been due in part to the staff difficulties already referred to, and in part to the need to divert effort to work on civil defence and to investigations for the service departments. The work in the newer branches, on the other hand, was still in its exploratory stages with less fixed commitments; it was also relatively better provided for in the matter of staff.

The consequences of this decision will be serious. It has meant, among other things, the abandonment of further sample surveys on productivity in the building industry and the slowing-down of the studies on the use of mechanical plant which were leading to such promising results, e.g., the tower crane. The productivity studies had reached a particularly interesting stage. For instance, a sample survey of productivity in housebuilding had lead to some striking conclusions on the effect of sub-contracting. Reporting on this survey, the Director of Building Research says: "In the trades of plastering, plumbing and painting, sub-contractors were employed on about half the contracts in the sample. In these trades the labour expenditure where the labour was sub-contracted was, on the average, between 15 and 20 per cent. lower than that of contracts where the main contractors' labour was employed for the work." The survey also provided interesting information on the effect of incentive schemes. The sample, however, in the main was confined to local authority contracts for three-bedroom houses, and the conclusions derived therefrom would not necessarily be true for other types of local authority building or for private enterprise work. It is unfortunate that this work had to be abandoned just at the point at which a good deal of useful data was beginning to emerge. So far this data would seem to be too limited to provide any really safe guide for future policy making; it will be necessary not only to carry out investigations in a wider field, but also to undertake more intensive research into the reasons why, for instance, sub-contracting appears to lead to higher productivity. It is to be hoped that the Government will soon see its way to provide the staff and money necessary for a resumption of this work, but it would also be profitable for the industry itself to undertake some work on these matters. Here again the industry is handicapped by not having its own organisation.

In view of the successful work in this newer field, it may be wondered whether the Building Research Board did in fact make the right decision in sacrificing the work for the older and more established researches. In our opinion the Board did adopt the right policy. Work on such matters as productivity and mechanisation can only be made fully profitable if the industry has available an ample and expanding supply of materials with which to work; the work which the BRS does on the problems of materials is thus of crucial importance. The moral is, of course, that it was a false economy on the part of the Treasury to have imposed these cuts in the first place. The Government should take note of the remark made by the Board: "While we fully appreciate the need for national economy, we must record our view that a reduction in research effort obstructs rather than favours the attainment of this end."

Finally, we would once again protest at the delay in publishing the report. The Building Research Board made its

report in February. The Stationery Office publish it eight months later. This is a serious matter. There is much information in this report, e.g., that on steel economy, which is of direct and immediate concern to practising architects and engineers. Such information ought not to be held up a day longer than is necessary.

PRODUCTIVITY IN HOUSE BUILDING

THE Report on the Second Survey of Productivity in House Building conducted by the Building Research Station, which has just been published,* is concerned with three-bedroom two-storey houses built for local authorities in England and Wales, and completed between January, 1949 and March, 1951. Unlike the pilot survey which covered the period 1947–1948, the present survey includes both main and sub-contractors, but does not include houses built by direct labour nor, strangely, those in the London Region. Information was obtained from the main contractors' records for 177 completed contracts and from about 1,000 sub-contractors employed by them. This information and the findings of the report thereon are summarised on page 672.

The report states that the aim has been "to measure changes and differences in productivity rather than the average levels, and to determine the causes for these changes and differences." This is as well, because the figures relate to contracts on which the bulk of the building was done in 1949–50, since when upwards of three years has elapsed. Much has happened during the intervening period which can have had an influence on productivity, and wage rates have risen by about 20 per cent. Very little, however, is said about labour costs, and it is difficult to judge from the manner of presentation how final costs were affected by the variations in output.

One of the main findings of the inquiry is the wide variations in the time taken to complete work in particular trades, and the total time spent in building comp'ete houses. The average time taken to build a complete house was found to be 2,705 hours, the lowest average time on a contract being 1,565 hours and the highest 4,645 hours. The times taken to complete the work in various trades showed even wider differences, both for main and sub-contractors. The report goes to some trouble to isolate these variations and their causes, but no further information is volunteered on the contracts to which these extreme figures apply. Since the lower and upper extremes would represent labour costs per house of the order of £250 and £700 respectively, it would be illuminating to know a little more of the histories of these contracts.

The chief reasons for the general variations in output revealed by the Survey were: sub-contracting; incentives and other extra payments; size of contract, and type of supervision. Sub-contractors, who were responsible for about 25 per cent. of the work covered by the Survey, appear on the figures presented to have expended less time than main contractors on operations for which they were responsible. The extent to which sub-contractors were employed on different trades, and the savings in time revealed, should be of interest to house builders and will show them the extent to which their competitors take advantage of any savings to be achieved by their employment. Man-hours, however, do not determine the price of a product. The Survey does not reveal what actual savings in money were achieved by sub-letting particular sections of the work.

It was found that target incentive schemes—that is to say schemes in which payment is based on any increase in production in relation to agreed target levels—were employed on about one-quarter of the contracts reviewed. (This figure is somewhat difficult to reconcile with the findings of the second Girdwood Report and the Ministry of Works' review of the spread of incentives, covering approximately the same period, which showed a rather more optimistic position.) Extra payments (or plus rates) unrelated to target or measured output were paid on one-half of the sites reviewed, and on the remaining one-quarter, the standard wage rates only.

It was found that the employment of target incentive schemes coincided with a reduction of between 15 per cent. and 20 per cent. in the time taken to build a house. In the plastering and plumbing trades these schemes resulted in increases in output of 28 per cent. and 40 per cent. respectively. The report states that there was also a small saving in time on those contracts where extra payments were made.

The report is strangely silent on the effects of incentive schemes on costs, but from the figures presented it may be deduced that the savings in time resulting from target incentive schemes were associated with commensurate savings in money. On the other hand, plus rates unrelated to output on average exceeded any increase in output attributed to their employment. It is well known that these payments are in fact usually made purely to attract labour to particular sites or contractors. If the report helps to convince these contractors that the same objectives can be achieved by bonus payments out of measured savings, it will have done a profound service to the industry and the national economy.

The average size of contract in the survey was for 26 houses. As might be expected, it was found that the larger the contract the smaller the number of hours expended per house. It is of special interest however that size of contract chiefly affected the bricklaying trade, it being inferred that unless there is effective pre-planning of the contract as a whole the follow-on trades do not obtain the full benefits of the continuity of work which should result from larger-scale projects.

Much is made of the comparison between the average period taken to carry out the contracts covered by the survey, which was about 14 months, and that found on an experiment in Norwich in the use of a mobile crane, where the contract period for 30 houses was about five months. Clearly the length of a contract is determined by the contractor, not only in the light of the availability of labour and materials, but also his general organisation and other commitments. To imply that, as an example, a contract for 30 houses should be built in a period of five months instead of 15 months, means that the average contract of this size would require a labour force, excluding sub-contractors, of between 40 and 50 men, compared with less than half that number on the average contract of this size. This might well put too great an emphasis on speed, to the detriment of a balanced organisation. In this connection, an important point brought out in the report was the influence of the direct supervision of the working principal on the smaller contracts, stated to be responsible for a saving as great as that achieved by the employment of target incentive schemes, on which contracts, however, these were not, on the whole, applied.

Other causes for the variations in productivity dealt with in the report are regional influences and the contractors' experience in house building. The findings with regard to the former influence are, however, open to question because the three regions selected, Northern, Midland and Southern, cover such widely varying country.

Unfortunately little attention has been paid to the specification of the work in particular trades, which must have an important effect on the labour costs. As an example, where, as is often the case to-day, breeze blocks or other substitute materials for bricks are employed in the shell, there are usually substantial savings in site labour costs for this reason alone. More important, the extent of under-building and external services, which are entirely outside the control of the contractor, varies widely.

Bearing these facts in mind, the findings of the Report should make useful reading to all engaged in the practice of house building. They may feel, however, that a great deal of time and money has been spent in confirming what are, for the most part, well established truisms in the industry. We would suggest with respect to the Department of Scientific and Industrial Research, that if Surveys of this nature are to be continued in future, the method employed should provide more detailed information on labour costs in a form in which they will be helpful to builders in tendering, and in agreeing incentive targets. In their present form, the facts presented are of doubtful value for these purposes, particularly in view of the length of time the present method of analysis involves. This is another aspect which surely calls for drastic remedy.

* National Building Studies. Special Report No. 21. "Productivity in House Building—II." HMSO, price 1s. 9d.

NOTES & NEWS

PRODUCTIVITY

FOLLOWING the publication of the report of the British Building Productivity Team which visited the USA, the RIBA, RICS and NFBTE fostered the formation of joint local committees to consider ways and means of improving building productivity in their various districts.

One such committee was subsequently set up composed of members of the Northamptonshire branch of the Northants, Beds and Hunts Association and local branches of the NFBTE and the RICS. This committee has now issued a report which summarises the results of the discussions which took place.

Although most of the obstacles which the committee found to be hindering higher productivity are common knowledge by now, it is important that they should be fully discussed at a local level if they are to be successfully overcome. The main solution to increased output, the committee states, lies in the complete pre-planning of every building contract. Among the other points they make are :

(1) Building owners should be made aware of the high cost of making variations during the course of the contract. (2) The employment of a large number of sub-contractors does not necessarily increase productivity. (3) The RIBA Form of Contract should be adopted in all cases without alteration. (4) Insufficient economical use is made of mechanical plant, especially the smaller mechanical aids.

It is obvious from reading this report that all the major outstanding problems of the industry have been thoroughly considered by the various parties involved in the discussions and, therefore, each must now be aware of the difficulties confronting his fellow members in the building team. Surely this is the most favourable basis on which to plan for greater efficiency and production.

ABS ANNUAL BALL

LAST YEAR the annual ball of the Architects' Benevolent Society raised over £2,000 towards the Centenary Fund for Old People's Homes. The popularity of the ball is shown by the large demand for tickets which has followed the first announcement of this year's function. It is to be held at the Dorchester Hotel on Wednesday, December 9, from 8.30 p.m. to 2 a.m. under the patronage of Mr. Howard Robertson, ARA, PRIBA, president of the Society, Sir Alfred Bossom, MP, FRIBA, Sir Alfred Shennan, FRIBA, Sir Hugh Casson, RDI, FRIBA, president of the Architectural Association, Alderman F. W. Dean, DL, president, IAAS, and Major Edward Procter, OBE, president of the Institute of Registered Architects.

The ball committee under the chairmanship of Mr. C. J. Epril, FRIBA, is working hard to make the ball even more successful than before. In addition to dancing to Charles Ernesco's orchestra, there will be professional entertainers and numerous sideshows and competitions. As on previous occasions the table decorations and sideshow stands are being designed and constructed by students of the London schools of architecture. The committee would like to receive gifts of prizes for the competitions, especially "bottled goods" for the hoopla and similar games of skill, but they would welcome other prizes as well. Tickets for the ball at £2 2s. each (including supper) are obtainable from the Hon. Organising Secretary, c/o Mr. C. J. Epril, 55, Pall Mall, SW1.

THE LATE SEPTIMUS WARWICK

WE REGRET to record the death on October 27, of Mr. Septimus Warwick, FRIBA.

ARCHITECTURAL APPOINTMENTS

THE PRESENT ARCHITECT to Birmingham education department, Mr. J. R. Sheridan-Shedden, ARIBA, was on October 20 appointed to the newly created post of deputy city architect.

THE assistant chief architect and planning officer to East Kilbride (New Town)

THE NEW TRINITY HOUSE, TOWER HILL. Designed by Professor A. E. Richardson, RA, FRIBA, closely in style to the original building built by Samuel Wyatt in 1793, is the new Trinity House, which was opened by the Queen on October 21. The facade and the interior decorations are replicas of the first building, but on the east side a new wing has been added. The modern office block built at the back is in keeping with the surrounding buildings. The old Trinity House was bombed during the war. The quantity surveyors for the new building were Messrs. Wells and Walchli, F/ARICS, and the builders Messrs. Trollope and Colls.

Development Corporation, Mr. David Eyre Percival, ARIBA, AMTPI, has been appointed Deputy City Architect and Planning Officer of Coventry.

The Gaer housing scheme, Newport, Mon, for which he had a major responsibility, received the Ministry of Housing and Local Government Medal, as well as a Festival of Britain award, in 1951.

BUILDING EDUCATION

THE fourth annual Building Education Conference, organised by the London Master Builders' Association, was held under the chairmanship of Mr. Gerald Hill, President of the Association, on Friday last. The Association's council chamber was full to overflowing with heads of schools of building, senior craft instructors and Association members especially interested in this important subject; in the space of three hours a number of subjects of particular moment to building education were discussed.

These conferences act as a prelude to the year's work of the Association's committees engaged on apprenticeship and training matters; while this did not allow exhaustive discussion of the 14 subjects listed, the various contributions made for a lively debate which must have given a useful lead for discussion and action in committee and in the technical schools. The contributions were of a very high order, and Mr. Hill earned general commendation for keeping to a strict timetable without appearing to guillotine discussion.

"BUILDINGS AND PEOPLE"

UNDER the title of "Buildings and People," Mr. Paul Hogarth is to present at the Architectural Association, 36, Bedford-square, WC1, a varied collection of 40 recent topographical drawings and portraits. They include drawings done in France, Greece and Britain as well as in Poland, Italy and Czechoslovakia.

The exhibition will be open from November 3 to 27.

RIBA CRICKET

MR. P. W. ADAMS, FRIBA, will be proposed as president of the RIBA Cricket Club, at the annual general meeting to be held at 34, Bedford-square, WC1, on November 20. At the same time the committee will nominate as vice-presidents Mr. Howard Robertson, ARA, PRIBA, and Mr. S. B. Caulfield, FRIBA.

FROM "THE BUILDER" OF 1853

Saturday, October 29, 1853

"THE LAST SUPPER."—"The Last Supper" of Leonardo da Vinci, being painted in and for the refectory of the Dominican convent of Santa Maria delle Gracie, at Milan, has suffered so much from time and exposure, that its colours scaled off lately at every breath of air. The restorer of paintings, M. Steffano Barezzi, has, however, made a discovery, by which these decaying colours can be again combined together and fixed to the wall, which being tried on the above picture, has, it is stated, completely succeeded.

"Social amenities in some of these New Towns are practically non-existent."

PROFESSIONAL ANNOUNCEMENT

MR. JOHN NOWELL PARR, FRIBA, has taken into partnership MR. R. P. SHANNON, ARIBA. The practice will continue under the style of Nowell Parr and Son, 97, Old Brompton-road, SW7. Tel.: Kensington 9266 and 8871–2.

COMING EVENTS

MONDAY, NOVEMBER 2

INSTITUTE OF QUANTITY SURVEYORS (LONDON BRANCH).—"Modern Housing Construction," by Mr. Ronald W. Wates. Caxton Hall, Westminster, SW1. 6.30 p.m.

WILTS AND DORSET SOCIETY OF ARCHITECTS.—Exhibition of work. Salisbury Public Library. Continuing until November 7.

RIBA.—Travelling exhibition, "Home and Surroundings." Odeon cinema, Barking. Continuing until November 11.

LMBA.—Presentation of medals to prize-winners in City and Guilds of London Institute examinations. Worshipful Company of Goldsmiths, Foster-lane, EC2. 3 p.m.

SOCIETY OF ENGINEERS.—"Prestressed Concrete in Civil Engineering Works," by Mr. A. J. Harris, AMICE, Geological Society, Burlington House, W. 5.30 p.m.

ECCLESIOLOGICAL SOCIETY.—"William Bainbridge Reynolds (1854–1935) Craftsman in Metals," by Kenneth S. Mills, ARIBA, AMTPI. 2, Bloomsbury-square, WC1. 6.30 p.m.

BRITISH OCCUPATIONAL HYGIENE SOCIETY.—One-day conference. London School of Hygiene and Tropical Medicine, Keppel-street, WC1. 11 a.m.

TUESDAY, NOVEMBER 3

RIBA.—President's inaugural address and presentation of London Architecture Bronze Medal. 66, Portland-place, W1. 6 p.m.

INCORPORATED INSTITUTE OF BRITISH DECORATORS.—"Interior Designer in Practice," by Kenneth G. Warren. 2, Bloomsbury-square, WC1. 6.30 p.m.

HOUSING CENTRE.—"Playgrounds," by Lady Allen of Hurtwood. 1.15 p.m.

LONDON ASSOCIATION OF BUILDERS' FOREMEN AND CLERKS OF WORKS.—Annual dinner. Cafe Royal, Regent-street, W1. 7 p.m.

JOINT IRON COUNCIL.—Banquet. Dorchester Hotel, Park-lane, W1. 7.30 p.m.

WEDNESDAY, NOVEMBER 4

REINFORCED CONCRETE ASSOCIATION.—"Reinforced Concrete Highway Bridges," by Mr. C. S. Chettoe, MICE. 11, Upper Belgrave-street, SW1. 6 p.m.

RICS (JUNIOR ORGANISATION).—"The Expert Witness," by Mr. H. W. J. Powell, FRICS, 12, Great George-street, SW1. 6 p.m.

THURSDAY, NOVEMBER 5

STUDENTS' PLANNING GROUP.—"Housing and Family Life," by Professor J. M. Mackintosh. 28, King-street, WC2. 6.30 p.m.

ROYAL SANITARY INSTITUTE.—"Sewerage Problems in Subsiding Areas," by Mr. M. Ward and "Acquisition and Modernisation of a Common Lodging House," by Mr. G. O'Brien and Mr. D. W. Richardson, ARIBA. Town Hall, St. Helens. 10.30 a.m.

FRIDAY, NOVEMBER 6

ASSOCIATION OF BUILDING TECHNICIANS.—"Architects' Salaries"—an open forum. Caxton Hall, Westminster, SW1. 6.30 p.m.

INCORPORATED SALES MANAGERS' ASSOCIATION.—Conference on "Tomorrow's Markets." Connaught Rooms, WC2. 9.15 a.m.

CORRESPONDENCE

HEADSTONES TO WAR GRAVES

To the Editor of *The Builder*

SIR,—With reference to Mr. T. Frank Hawkes's comments on headstones erected by the Imperial War Graves Commission, I should very much like to give a few points of view.

To begin with I entirely disagree with the writer's view that the headstones are badly proportioned, feeble in design and unworthy of their great purpose. The measurement of the headstones in question, when erected, are uniformly 2 ft. 9 in. by 18 in. by 3¼ in. The layout of Regimental Crest, Latin Cross and the personal inscription, in most cases inscribed at the request of relatives, are perfect in every detail. When these stones are erected with complete curb surrounds I think the writer would agree that the design and measurements of the headstones could not possibly be further improved.

For information, I would point out that graves in communal and civil cemeteries abroad only allow the grave area of 2 metres by 1 metre, and in many cases sometimes less, and a larger or smaller stone or a different design would not in any way equal the headstones as erected by the War Graves Commission.

I agree that the headstones are of a plain and simple design, but that design is pleasing and highly architectural, when seen not only in large war cemeteries but also in isolated cemeteries containing from one to five graves. It is then and there that the real beauty of their simplicity and design can be fully understood. I agree with Mr. Hawkes's view that the inscriptions are delicately incised; this is due to the present method of machine cutting, and is in no way comparable to the letter cutting by hand as seen on the majority of the 1914-18 headstones erected, although some of these are not cut more than 1 mm. deeper than the present day; yet even after 30 years of standing up to weather conditions, they are still in very good order and readable.

One must further bear in mind that the present headstone is erected to all ranks, and that all are uniform and there is no favouring or class distinction. If, however, Mr. Hawkes feels that he could possibly improve the present design of headstones, I am sure that the Imperial War Graves Commission would appreciate that knowledge. But he must bear in mind costs, etc., which, incidentally, are a very important factor.

F. W. P. WILLIAMS.

47, St. George's-drive, SW1.

DEPUTY COUNTY ARCHITECT

HUNTINGDON CC invite applications for the post of Deputy County Architect. Salary £950 x 50 to £1,100 per annum. Details advertised elsewhere in this issue.

SHEFFIELD APPOINTMENT

THE APPOINTMENT of Mr. Henry Foster, Sheffield Deputy City Engineer and Surveyor and Town Planning Officer, to succeed his chief, Mr. J. M. Collie, who is retiring, has been confirmed by the Sheffield City Council.

Aerial view of King's Heath, looking north-west.

KING'S HEATH: A New Community at Northampton

Designed by J. L. WOMERSLEY, ARIBA, AMTPI, lately Borough Architect

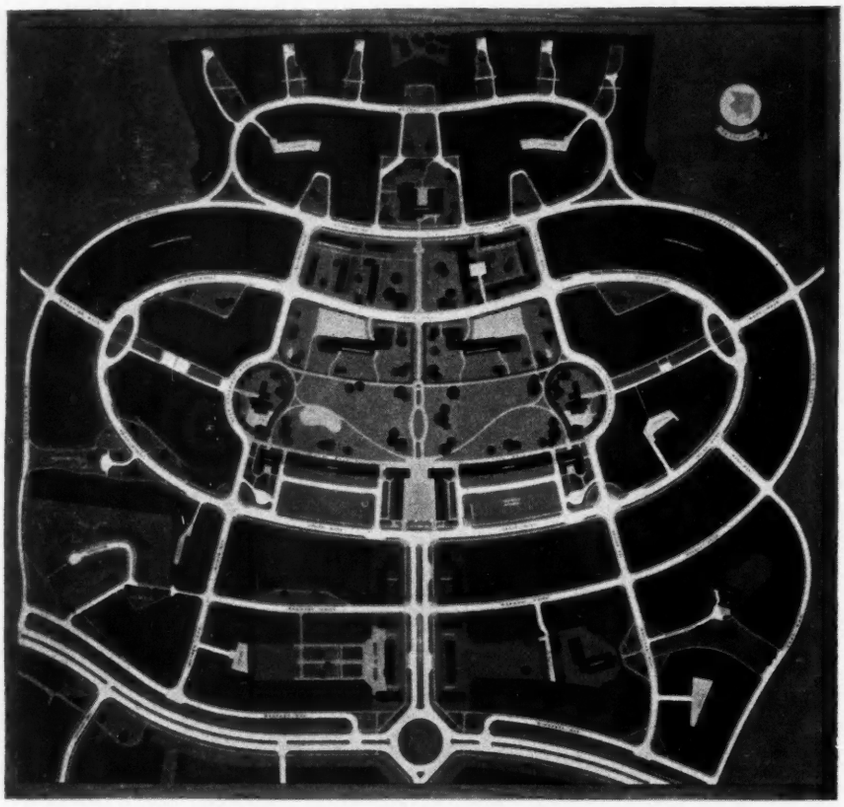
Assisted by GEOFFREY HOPKINSON, BArch, ARIBA, AMTPI, lately Deputy, and by H. J. RYMILL, IVOR MORRIS, ARIBA, and P. C. R. BRYAN

Quantity Surveyors: ERNEST HOWARD AND SON

Consulting Engineers
E. A. PEARCE AND PARTNERS

Builders
T. WILSON and Son, Ltd.
CLEMENTS BROS (N'TON), LTD.
A. GLENN AND SONS, LTD.
H. HOLLOWAY AND SONS, LTD.
CHOWNS, LTD.
A. AND F. GALE, LTD.
W. J. RICHARDSON AND SON
BOROUGH ENGINEER'S CONTRACTS DEPARTMENT

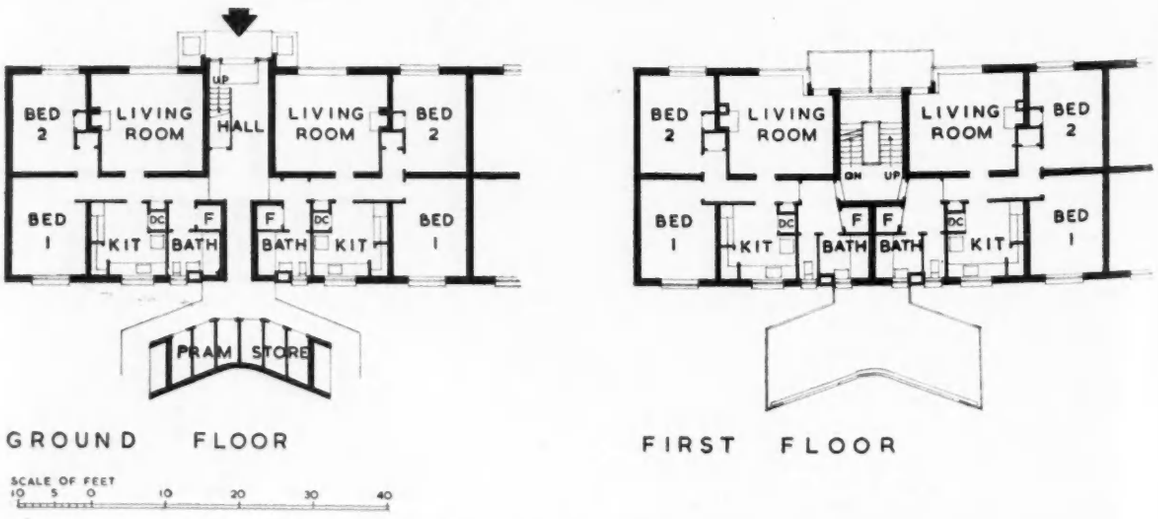
Two-bedroom houses at Heath Green.



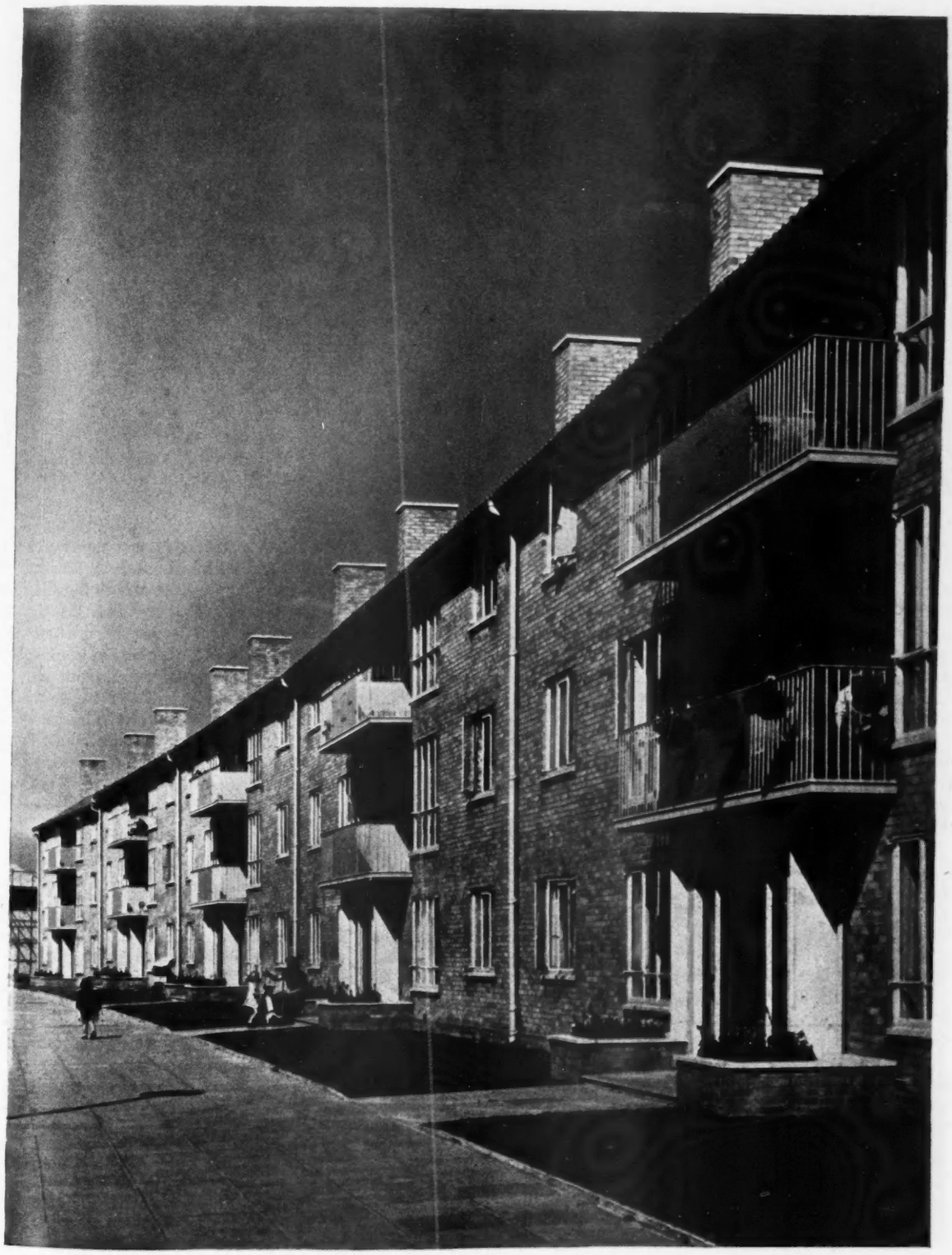
Map of King's Heath estate, as exhibited below Shopping Centre.

KING'S HEATH COMMUNITY, for the County Borough of Northampton, is the major work of Mr. J. Lewis Womersley, ARIBA, AMTPI, during his years as Borough Architect and Surveyor—work in which he was assisted by his Deputy, Mr. Geoffrey Hopkinson, BArch, ARIBA, AMTPI, and members of his staff. The estate, when complete, will offer within its 226 acres a balanced community life to over 5,000 people, with all the physical amenities which that life requires. Even now the community has all the indications—generous and gracious layout, sensitive massing and detailing of buildings, variety in type and sizes of home, and colour—which have that civilised and civilising influence lacking in too many local authority estates. Fortunate in being conceived in the more generous immediate post-war years, King's Heath should yet be seen by all working in the housing field as being a model of what an integrated community should be. The scheme came into being thus :—

The town of Northampton grew up on the higher ground to the north-east of the confluence of the two branches of the River Nene, its centre being determined by the crossing of the approach roads from the bridges and the river—South Bridge and West Bridge. Due to the river barrier, later strengthened by canal and railway, the town spread primarily in a north-easterly direction, leaving comparatively small developments south and west of the river.



Plans of three-storey two-bedroom flats, Park-walk (see opposite).



Three-storey two-bedroom flats, Park-walk.

Many fundamental conditions—northern slopes, expensive communications and a wide flood area—dictated against major developments to the south but, apart from the river and railway, no such problems precluded development to the west. Accordingly, in an endeavour to balance the growth of the town, some 250 acres of land were bought by the Corporation immediately after the war on pleasantly sloping territory between the radial approach roads from the north (Leicester) and north-west (Rugby) about 1½ miles from the town centre. A major road linking these two radial roads was a fundamental requirement in the development proposals, as was also provision for light industry to serve the western portion of the town.

The principal factors determining the disposition

Two-storey two-bedroom houses.

of the industrial and residential areas were the relationship of the railway, with certain goods sidings, to the land available ; the existence of a dormitory estate (the Spencer estate) immediately to the south-east and the charming village of Dallington in the narrow valley to the south-west. It was decided to locate the industry next to the railway and limit its area—and thus the extent of the sidings—by the link road, the industrial estate thus forming a " buffer " between the new and old residential developments which it was planned to serve. The village was protected by a strip of new residential development, carefully related both to itself and to the light industrial area.

The Ministry of Transport imposed a condition that access to the residential unit should be limited to three points from the proposed link road. Direct access from the town centre to King's Heath was readily determined by the existence of Gladstone-road, a spine road running through the Spencer estate. The extension of this road through the industrial estate leads, after crossing the link road, to the heart of the new neighbourhood and forms the main point of entry.

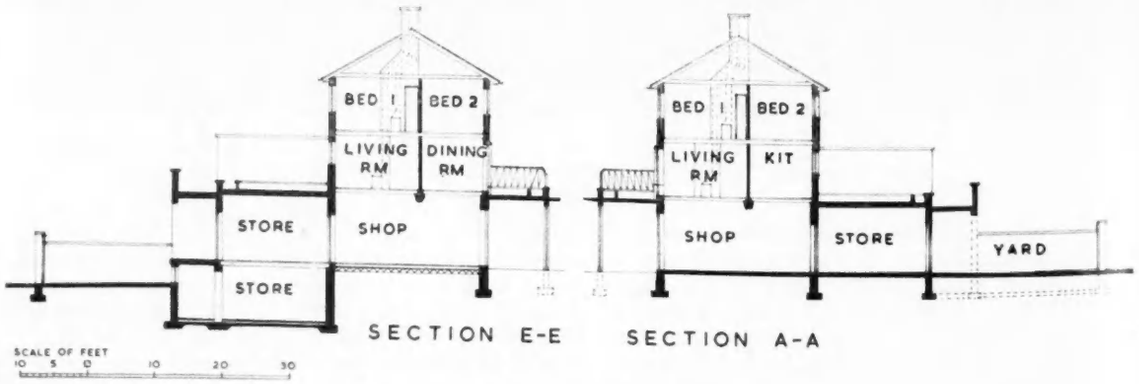
Site Features.—The site of the neighbourhood is in the form of a mound, the highest point being at the north-western extremity (to which the axis of the layout was swung from the approach road) from which the land falls steadily towards the main branch of the Nene in the north-east ; towards a smaller tributary of the Nene in a pleasant wooded valley on the south-west, and towards the town on the south-east. Apart from the slopes the site is somewhat featureless, but the small number of mature and scattered forest trees have been carefully preserved.

Because of its shape, however, the site is particularly conspicuous from the Leicester-road across the Nene valley to the east and from the Rugby-road across the valley of the tributary to the west. This factor has had a considerable bearing on the layout.

THE BASIS OF THE PLAN

So far as the residential unit was concerned it was the wish of the Corporation to create a comprehensive neighbourhood providing for the fullest domestic and social life of its 5,000 inhabitants—dwellings of all types and sizes, primary and secondary schools, shops, churches, community centre, pubs., a residential centre for old persons, and parks and recreation spaces. In an endeavour to avoid the creation of a one-class community, two large acres in the north-east and the north-west parts of the neighbourhood were reserved for the erection of larger-type houses to be let at economic rentals.

In order to keep the residential area reasonably

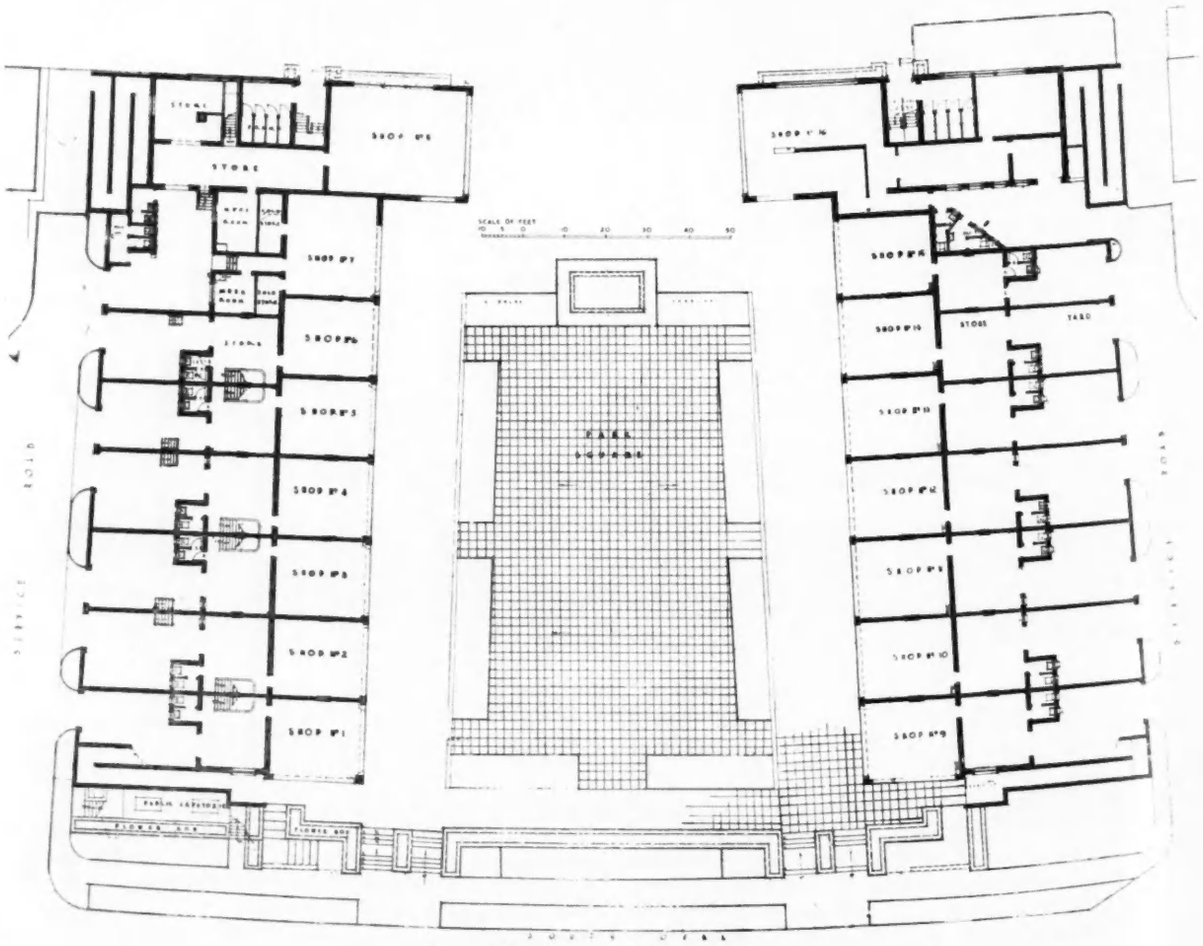


Sections through wings of Shopping Centre.

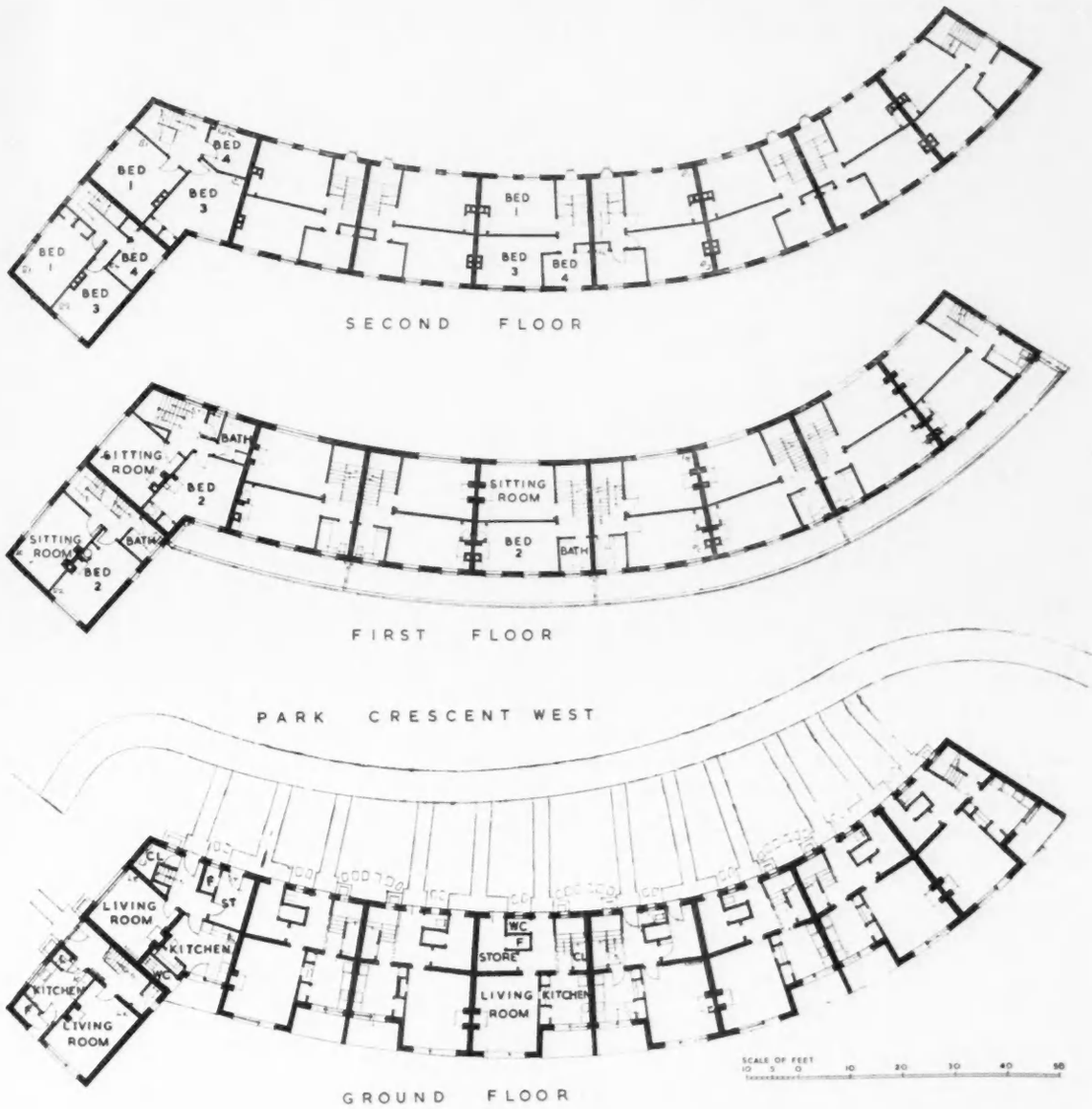
View of Shopping Centre, east side.

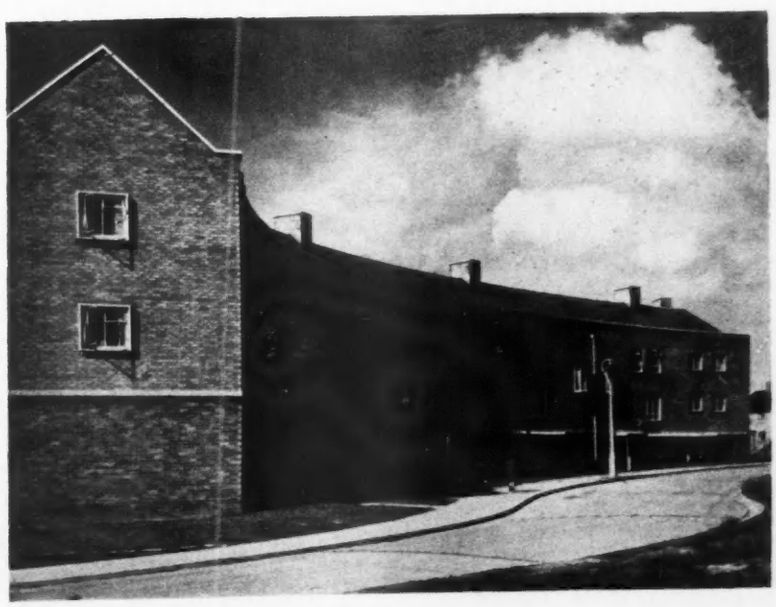
compact and exploit the main valleys as amenities to King's Heath in particular and the town in general, it was decided to locate the larger non-residential land users—secondary school, junior school, allotments and organised recreation spaces to the flanking valleys, most of these being placed to the east where the slopes are more gentle. The remaining non-residential users could then be grouped at the heart of the neighbourhood with the church standing on the highest point (a traditional feature in the Northamptonshire landscape) with its tower as the terminal feature on the axis of the estate. A small formal central park was planned which, with the adjacent shopping square, infants' school, community centre,

Another view of Shopping Centre, looking from the north and from the Park.



Ground-floor plan of Shopping Centre.





Three-storey four-bedroom houses, Park-crescent West. General view and (above) plans.

pubs and three-storey flats create a pedestrian precinct and common meeting ground for the inhabitants.

A further prerequisite was that a bus service should run through the estate. The route selected is a simple one which brings the buses within easy reach of all dwellings and passes the end of the pedestrian shopping square, adjacent to which are the principal stopping places. Sites for grouped garages are distributed about the estate on the basis of one garage to 20 dwellings. Two groups have been built to date.

The symmetrical basic pattern of the lay-out is considered to be a logical solution to the problem and it will be seen that within this framework considerable freedom in the grouping of dwellings has been achieved. The theme of the lay-out can be readily grasped by newcomers. The curving corridor roads provide interesting street pictures whilst at the same time affording a contrast to the more open grouping of the other dwellings round the greens.

DETAILS OF LAY-OUT

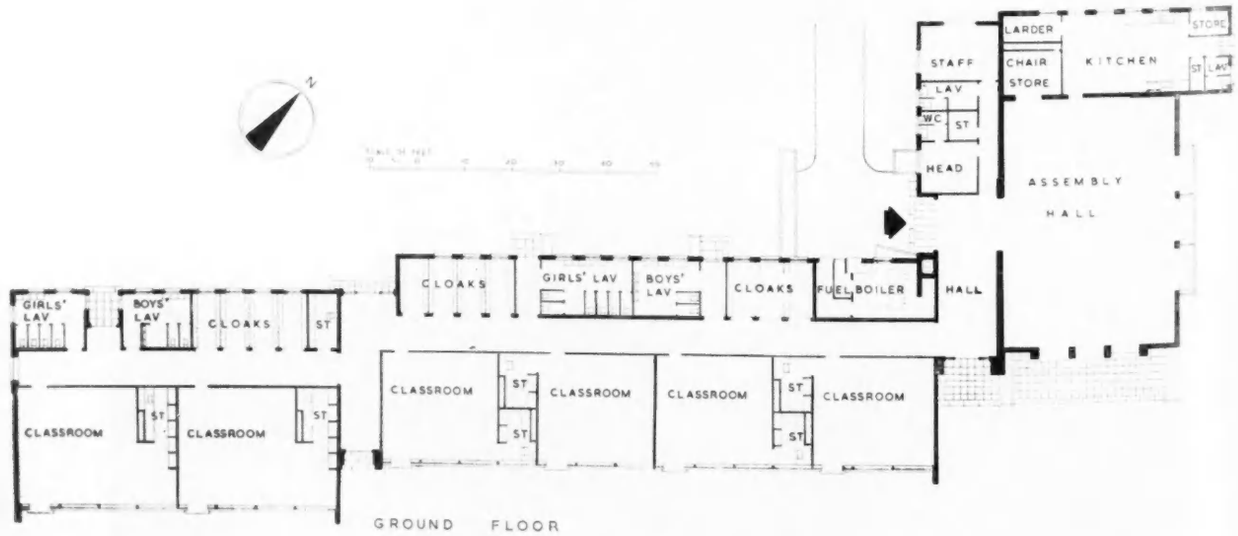
The scheme was largely planned and detailed in 1946–7–8, so that it represents ideas which have since been modified. The density—11 dwellings per area net—is now considered to be low and the wide fronted houses, so pleasant for their inhabitants, to conflict with the present-day needs to increase density and lower costs of roads and services per dwelling. Nevertheless many economies are in evidence.

The houses are provided chiefly in the form of terraces, with occasional semi-detached blocks to give variety. They are simple in treatment, mainly gabled, and stepped when site conditions demand. Where the houses are grouped round greens and closes, full advantage is taken of the permissible reductions in road widths and of the use of footpath access, with the result that substantial savings have been made in the road works and large areas of concrete or tarmac have been replaced by grass. By a restrained use of footpath access (i.e., by neither using it too frequently nor allowing the paths, when used, to be too long) this principle has been successfully exploited both to save cost and add greatly to the enjoyment of the inhabitants (e.g., Heath Green). Both density and scale are assisted by providing maisonetted and two-storey flats over the shops in the square and by building blocks of three-storey houses (Park-crescent West) and three-storey flats (Park-walk and Park-crescent East) overlooking the central park.

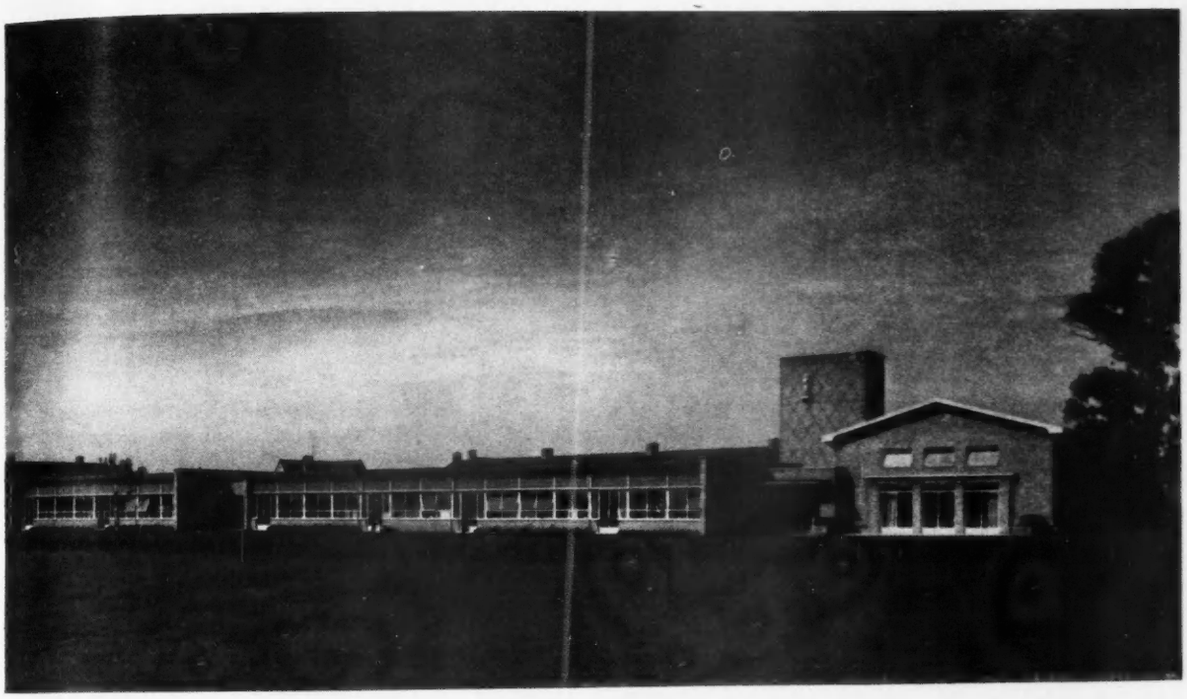
The dimensions of Church Green have been carefully worked out to provide for the erection of a church, church hall and vicarage on the wider part of the square. The treatment of the houses flanking the green, which will form the equivalent of a church close, has been kept deliberately restrained to provide a foil for the church which is being designed by Messrs. Seeley and Paget.

All houses have individual back gardens well screened from the public view by link walls or by the one-storey outbuildings between the house blocks. The fronts of the houses and flats have open grass forecourts, varied in some cases by paved areas, which are maintained by the Parks Department. Flower boxes and flower beds near the entrance doors and under the windows are looked after by the tenants who, on the whole, are taking a great pride in them. This was the first time the open front principle had been used in Northampton and, having shown by example how it would look, later estates are being developed to give the same general appearance but with the tenants constructing and maintaining the grass forecourts, which are there separated from the public footpath by a simple stone curb. Through the co-operation of the Housing Manager, these later developments are proving equally successful and are thus saving the burden of grass cutting and trimming from falling on the rates. The construction and maintenance of the common greens serving complete groups of houses is, both here and on later estates, carried out by the Parks Department.

All buildings are of traditional construction, facing bricks from various Leicestershire brickyards being used throughout, the different colours (ranging from light buff to red) and textures being carefully grouped. Roofs are partly of pantiles to a 32½ deg. pitch and partly of plain tiles to a 40 deg. pitch, the differing treatments again being the subject of careful group-



Plan of King's Heath Primary School (see opposite).



King's Heath Primary School: General view and (below) detail of hall and main entrance. The sculpture is by Robert Adams.

ing. Apart from the curved blocks in Park-crescent East and West, which have parapets, all buildings have liberally projecting eaves with plastered soffits. Eaves, gutters, rainwater pipes and gates in screen walls are painted in neutral colour. Windows are painted in three or four colours used in groups and tenants choose the colour of their front doors from a list of five strong colours selected by the Architect to tone with the predominant window colour.

PROGRESS

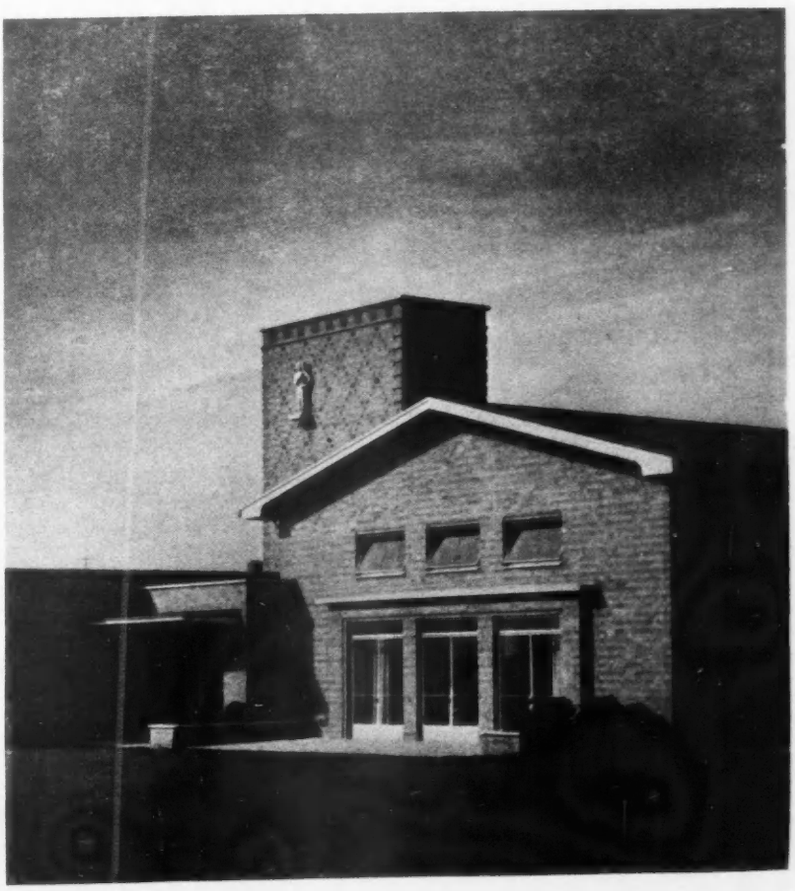
The aerial photograph, when compared with the plan of the layout, shows the progress made up to the time of Mr. Womersley's departure from Northampton to become City Architect of Sheffield. The higher flats along Park-drive, the main entrance parkway to the estate, are still to be built, as is the community centre on the site next to the infants' school. The old persons' residential centre, north of the community centre site, has since been started, and the junior school in the valley to the east is well advanced. Due to continually rising building costs, however, a decision on the sort of houses to be built in the two areas reserved for the larger type houses has still to be made.

Other non-arrivals to date are the two churches (each of which have, however, bought their sites) and the two pubs. Until these and the community centre have been built, the estate cannot be said to have made the full social provision which the Council desired. It is hoped that the freeing of licensing restrictions will, before too long, allow that worthy object to be achieved.

ACCOMMODATION OF NEIGHBOURHOOD

The Community, when complete, will comprise :—

1,300 dwellings.
A shopping centre of 16 shops.
Three nursery schools.
An infants' school.
A junior school.



Two-storey two-bedroom houses in Park-crescent West : Detail of end house and (below) a general view.

A secondary school.

An Anglican church with church hall and vicarage.

A Nonconformist church.

A community centre.

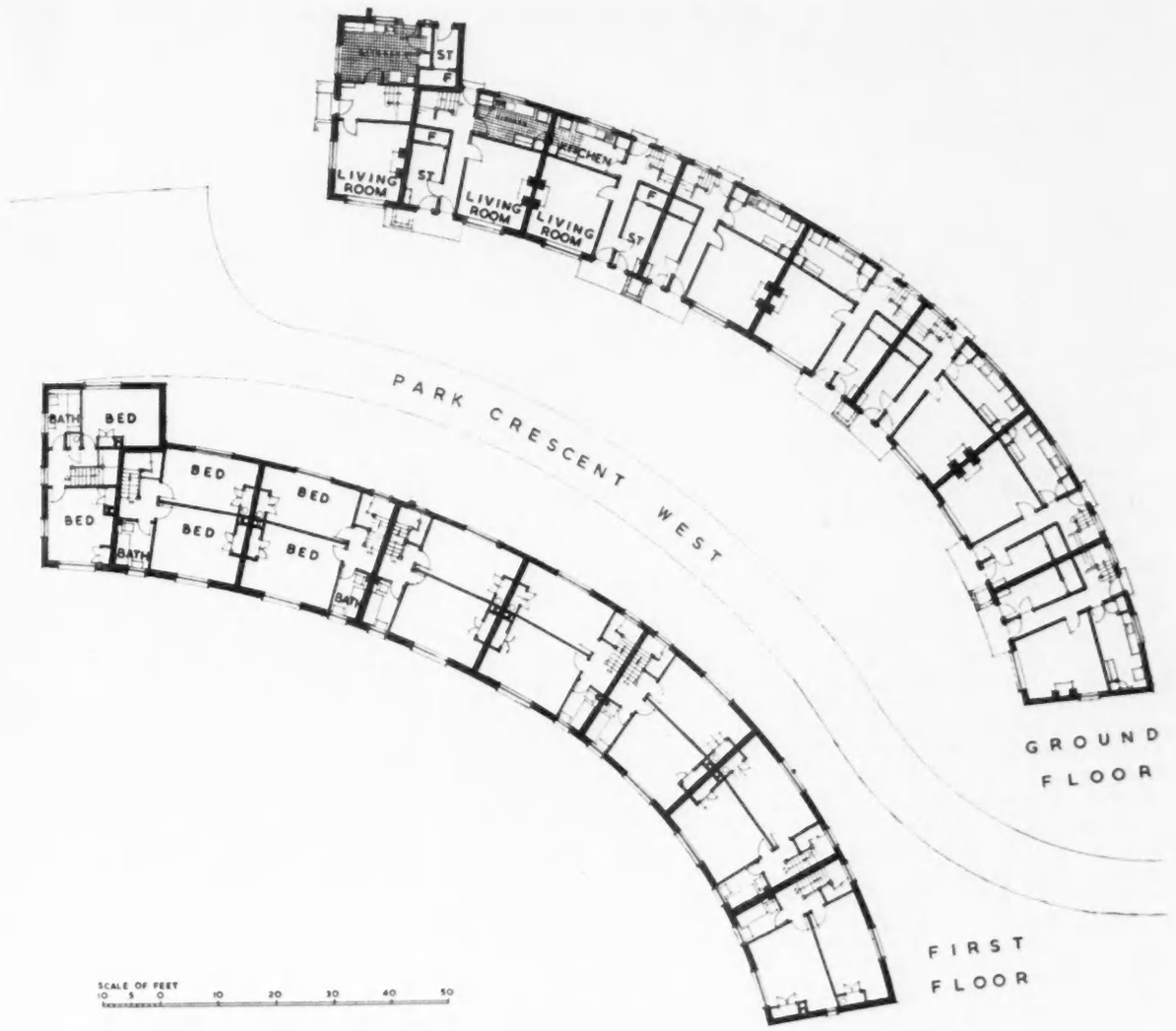
Two inns.

On adjacent land, between the new community and a pre-war housing estate, a light industrial estate is under development which will include, amongst other industries, a bakery, a shoe factory, a model-making factory and a Ministry of Works office block.

SHOPPING CENTRE

The Shopping Centre consists of 16 shops built on two sides of a paved square with two-storey maisonettes and flats of the two-bedroom type over. The square, together with the adjacent Park, forms a pedestrian "sanctuary" of some seven acres. A concrete canopy gives shelter to shoppers, and is used as a balcony to the maisonettes.

The standard shop has a frontage of 18 ft. and consists of the front shop compartment 22 ft. deep with a store 16 ft. deep behind and a yard 25 ft. deep behind that. Rear service roads serve the yards of each shop, and vehicles can be driven into the yards and backed up to the double doors to the stores. The shops on one side of the square have basement storage in addition to the ground floor stores, and trades selected for this side are, therefore, of the type which require larger storage accommodation. The maisonettes and flats are served by



Plans of two-storey two-bedroom houses, Park-crescent West (see opposite).

access paths over the stores to the shops at the rear which connect with ground level at each end by means of ramps having an average gradient of 1 in 10. The trades carried on in the shops were decided in collaboration with the Chamber of Trade.

The shops are being let by public tender for the specified trades on a 21-year lease, with tenants' option to terminate at the seventh year and mutual options to terminate at the fourteenth year. Reduced rentals are considered for the first two years. The tenants provide only movable fittings, the Corporation providing finishes and fixtures up to a specified standard.

The clerks of works engaged on the scheme are Messrs. M. Wilby, MICW, A. Course, R. A. McDermott and F. W. Clayson.

Nominated subcontractors and suppliers are :—

Reinforced concrete works : The Trussed Concrete Steel Co., Ltd., Trent Concrete, Ltd., Colwick, Nottingham ; Concrete, Ltd., Hounslow ; *shop fitters :* Harris and Sheldon, Ltd., Birmingham, 4 ; *terrazzo works :* Jaconello, Ltd., Birmingham, 16 ; *flat roof finishes :* Frazzi, Ltd. ; Scudamore and Luck, Ltd., Northampton ; and Permanite, Ltd. ; *electrical installations :* East Midlands Electricity Board, Northampton ; The Electrical Installation Co., Northampton ; and F. J. Perrin, Northampton ; *floorings :* R. W. Brooke and Co., Ltd., Liverpool ; Jaconello, Ltd., Birmingham, 16 ; Stonart Asbestos Flooring Co., Ltd. ; Gabriel Wade and English, Ltd. ; The Marley Tile Co., Ltd., Branston, Burton-on-Trent ; Semtex, Ltd., Birmingham, 2 ; Stevens and Adams, Ltd. ; Dennis Ruabon, Ltd., Ruabon ; *manufactured wrought ironwork :* Gardiner Sons and Co., Ltd., Bristol, 2 ; A. H. Allen and Co. (Engineers), Ltd., Northampton ; Matthews Bros., Northampton ; Cox Bros., Northampton ; Tubewrights, Ltd., Newport, Mon. ; and The Northampton Machinery Co., Ltd., Northampton.

Radio, wireless relay and television points : Northampton Wireless Relay, Ltd., Northampton ; Audix, Ltd., Bishops Stortford ; *sanitary fittings, etc. :* J. W. Martin and Partners, Northampton ; Rawlins Hawtin and Co., Ltd., Northampton ; Travis and Arnold, Ltd., Northampton ; A. R. and W. Cleaver, Ltd., Northampton ; Econa Modern Products, Ltd., Tyseley ; and William E. Farrer, Ltd., Birmingham, 28 ; *gas installation, services, etc. :* East Midlands Gas Board, Northampton ; *public and street lighting :* East Midlands Electricity Board, Northampton ; Troughton and Young, Ltd. ; Stanton Ironworks Co., Ltd., near Nottingham ; *fireplaces :* A. Bell and Co., Ltd., Northampton ; and Raponi (Flooring), Ltd., Birmingham, 11 ; *bricks :* The Ibstock Brick and Tile Co., Ltd., near Leicester ; Proctor and Lavender, Ltd., Solihull ; New Star Brick and Tile Co., Leicester ; National Coal Board, Coleorton, near Leicester ; and Ansley Hall Colliery, Nuneaton ; The London Brick Co. ; The Cherry Orchard Brick Co., Ltd., Kenilworth ; and Henry Hawkes, Kenilworth ; *window ventilators :* Greenwoods and Airvac Ventilating Co., Ltd. ; *refrigeration :* Howards Refrigeration, Ltd., Luton, Beds ; *metal windows and door frames :* Henry Hope and Sons, Ltd. ; Smethwick; Crittall Manufacturing Co., Ltd., Leicester; John Thompson (Beacon Windows), Ltd., Wolverhampton ; and Williams and Williams, Ltd., Chester and Nottingham ; *steel lineposts :* Stewarts and Lloyds, Ltd., Birmingham, 1 ;

(*Continued on page 678.*)

Model of school.

DRYLAW PRIMARY SCHOOL SOUTH, EDINBURGH

A School Designed in Cellular Plastic Panel Assemblies

Architects
GEORGE L. WALLS & DUNCAN, DAEdin., F/ARIAS

THE School is a full primary one for 650 pupils, and contains 16 classrooms, a general purposes room, assembly and dining hall, medical inspection suite, and the usual administrative and staff rooms; the estimated cost is £100,000.

The Education Committee of the City of Edinburgh asked the architects, Messrs. George L. Walls and Duncan, of Edinburgh, to investigate the problem of designing a primary school which would not use in its construction appreciable quantities of building materials required for housing. After a great deal of research, the construction now to be adopted for Drylaw Primary School was devised.

Essentially the construction consists of a reinforced concrete raft on which stand the cellular plastic panel assemblies, less than 2 in. thick, forming the outer walls and internal partitions. These in turn support the roof consisting either of timber trusses with strawboard and copper sheeting, or of aluminium decking. The two-storey section is constructed of brick cross walls supporting prestressed precast concrete flooring and roof units. The outer walls of this section are again of plastic panelling.

All the plastic panels used are cut to size at the factory and are despatched to the site with the doors and windows already set in position. At the site the assemblies are coupled together by means of aluminium alloy extrusions, which allow of rearrangement of internal planning, etc., at any later time. The plastic panels are finished in a variety of colours, requiring no subsequent decoration, and are impervious to water and vermin and are non-inflammable. The cavities in the panels are filled with either glass-wool or wood-wool, and give thermal and acoustic insulation superior to that of the conventional cavity brick walling.

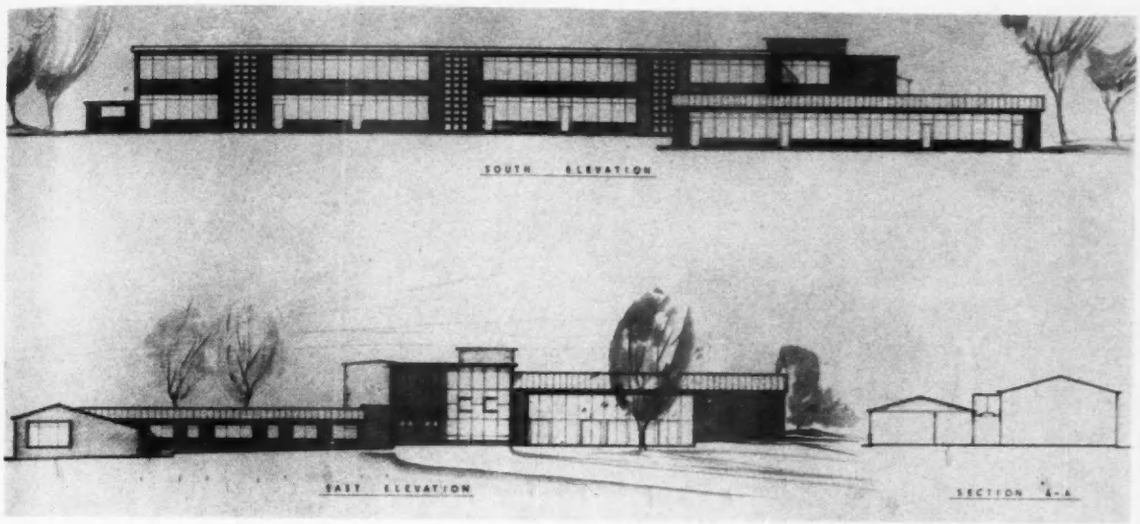
It is anticipated that the erection time will be far less than that required for conventional construction, and that the maintenance costs will be materially lower.

The heating of the school is by means of electrical elements embedded in the floors. Electricity is switched on automatically at 7.0 p.m. and, subject to thermostatic control, is switched off at 7.0 a.m. The entire structure acts as an accumulator for this heat which is dispersed during the day while the school is in use. It is this use of off-peak electricity that has made this system of heating acceptable economically.

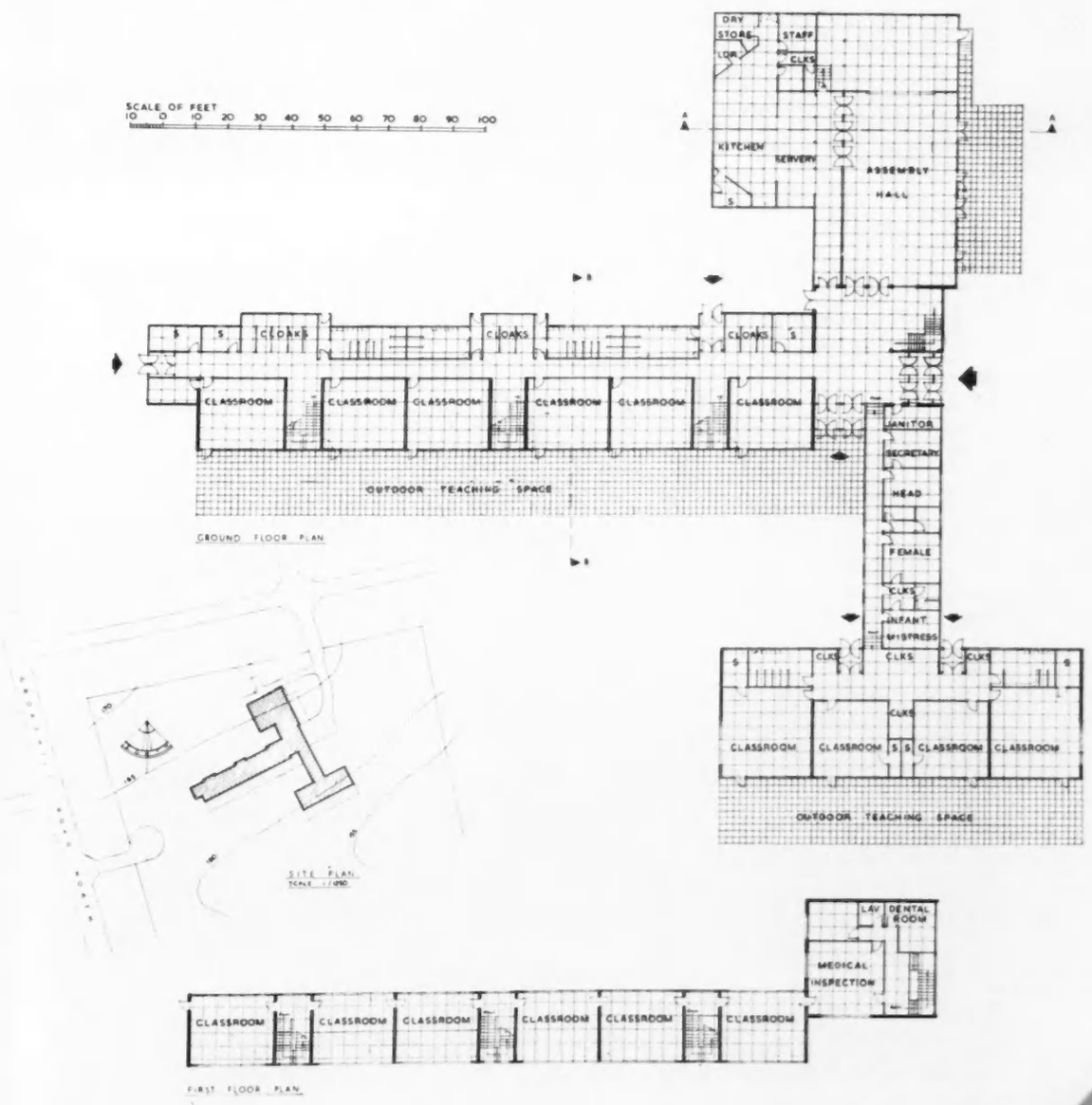
A second school of similar construction, designed by the same architects, is proposed for erection on a site at Hyvot's Bank on the south side of the city.

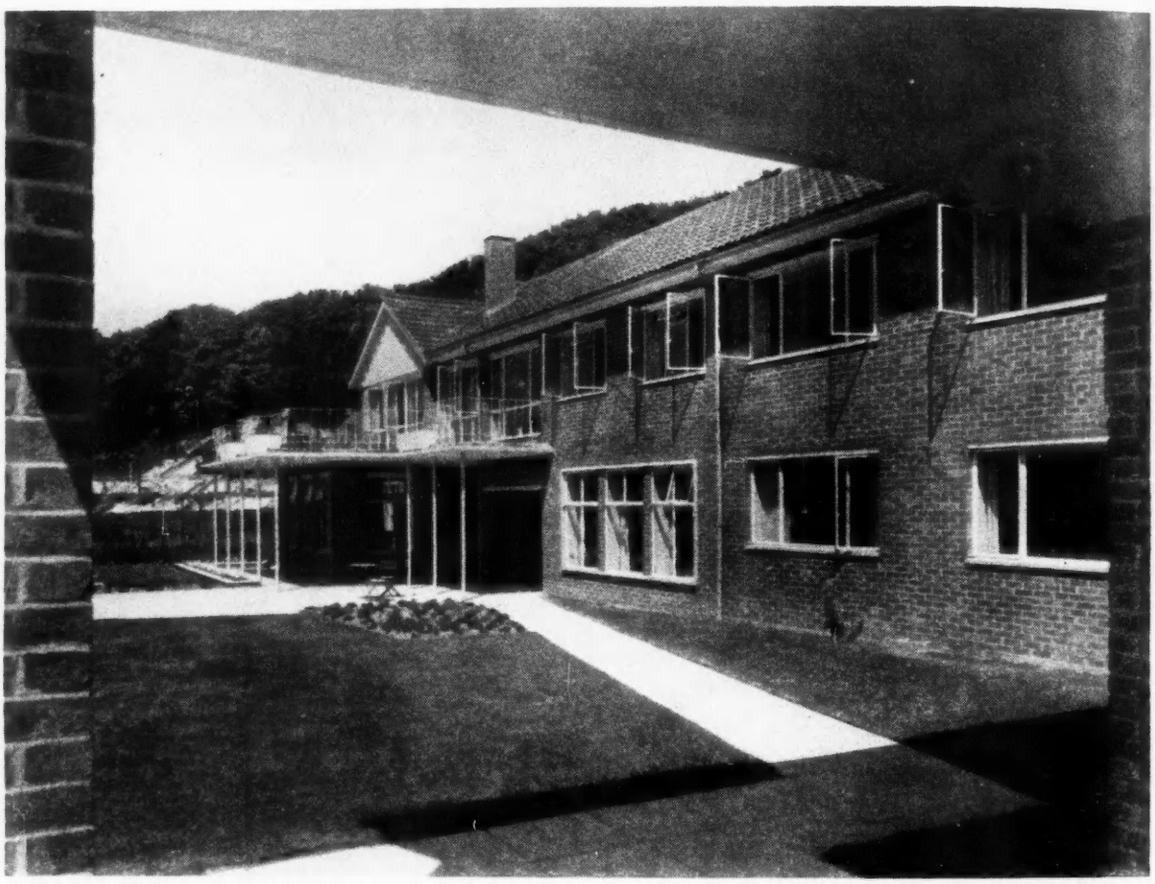
The manufacturers of the plastic panelling to be used are Messrs. Holoplast, Ltd., and the contractors accepted for this work are : Excavator, brick, etc., work, J. Smart, Edinburgh; carpenter and joiner work, Peter Nimmo and Son, Ltd., Newbridge, Midlothian; plumber work, Rutherford and McAlpine, Edinburgh ; roof plumber work, Patrick Knox and Son, Ltd., Edinburgh ; roof asphalt work, William Briggs and Sons, Ltd., Edinburgh ; plaster cement, etc., work, Scott and Davie, Leith.

Perspective of main entrance.



DRYLAW PRIMARY SCHOOL SOUTH, EDINBURGH





View of front elevation from the south-east. Below : View from the south-west.

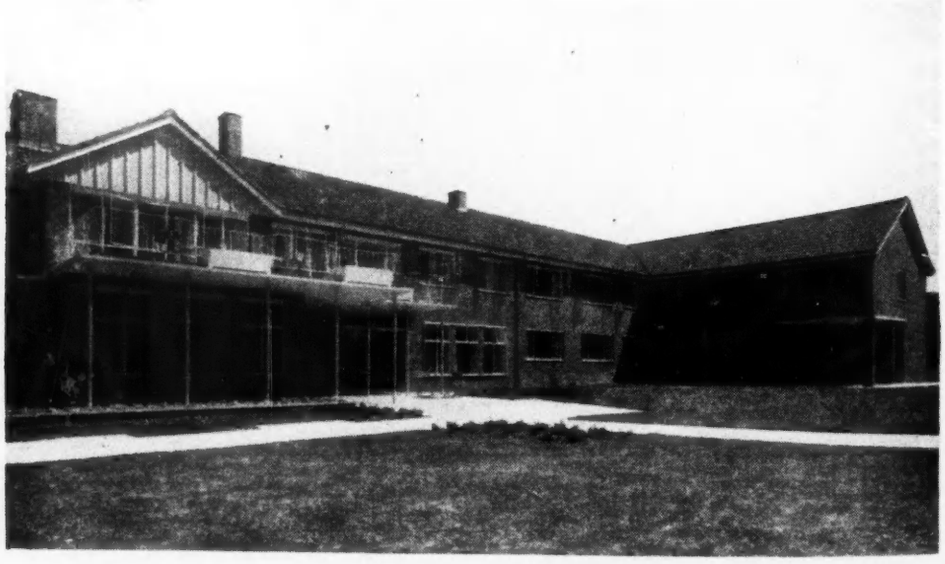
"PARTRIDGE HOUSE": OLD PEOPLE'S HOME, BRIGHTON

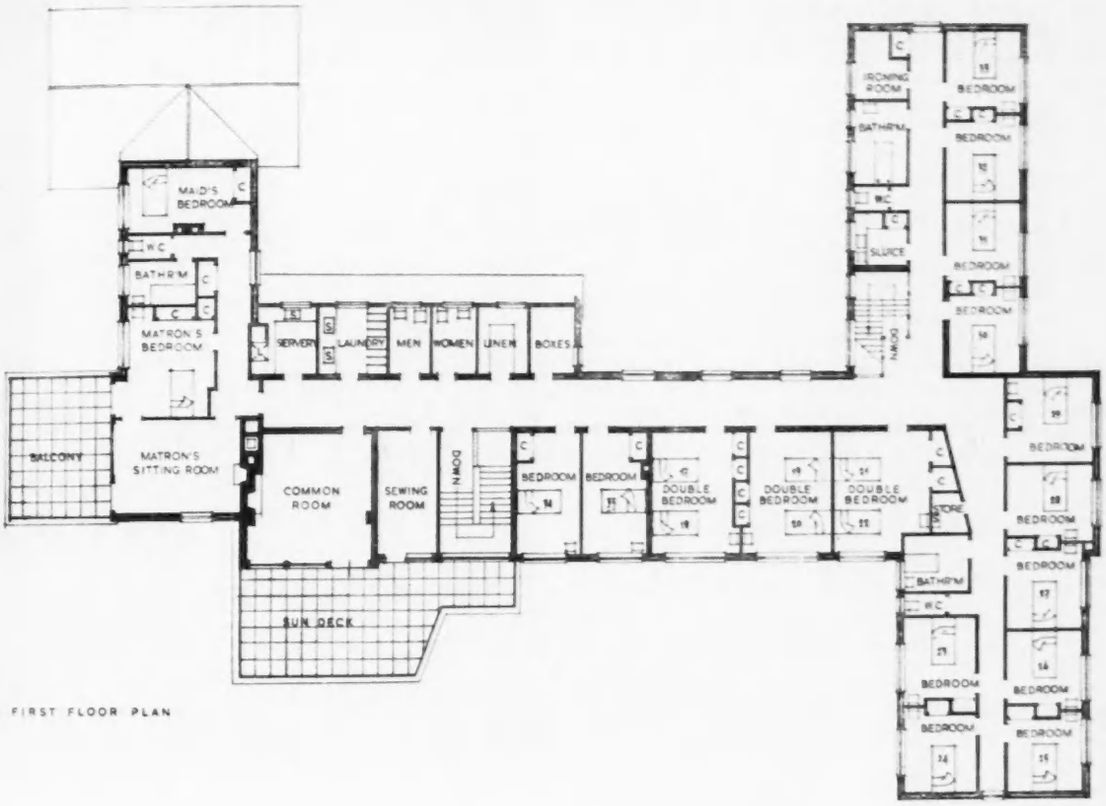
Borough Engineer & Surveyor
D. J. HOWE, MICE, MIMunE

Builders
JEFFERY & SONS (HOVE), LTD.

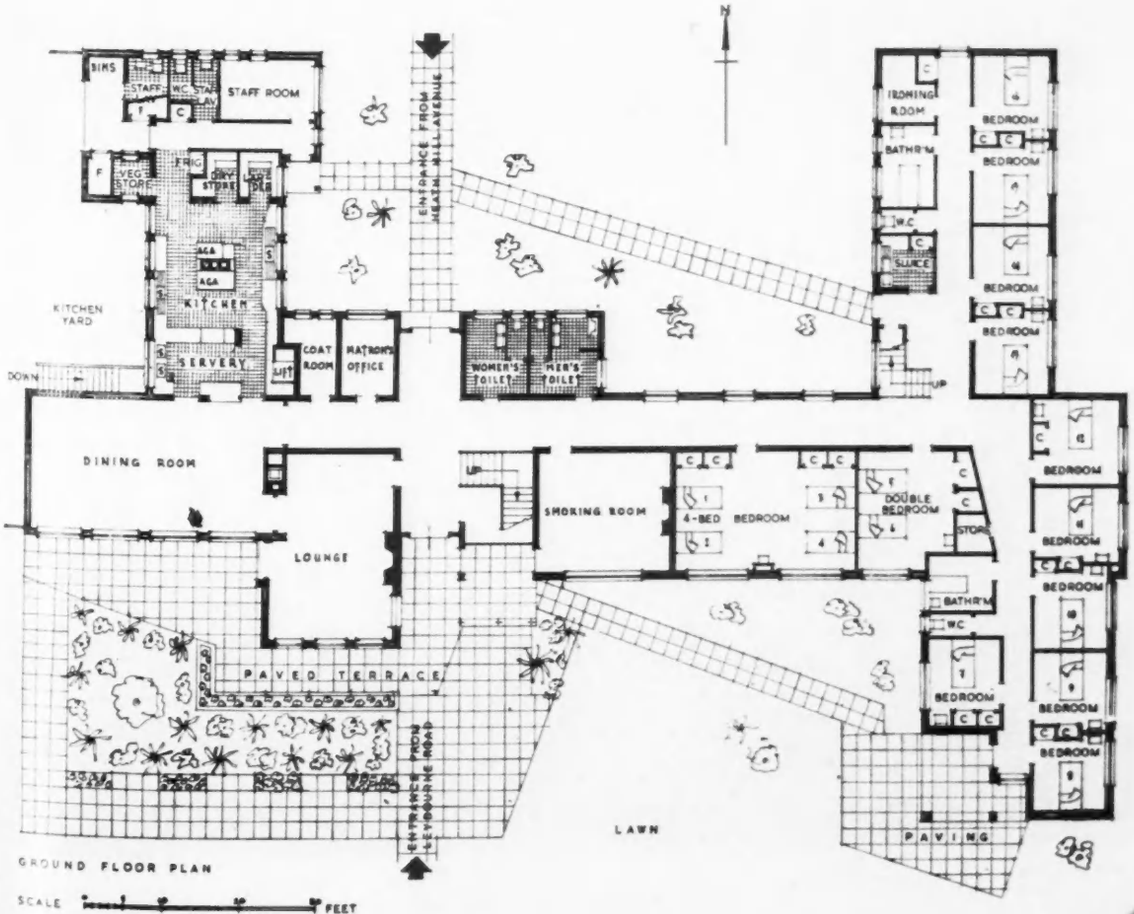
BUILT in the centre of one of the Corporation's new housing estates, "Partridge House" is the first home for old people in Brighton designed to accommodate both men and women, and to have a number of two-bed bedrooms for aged married couples. Accommodation is provided for 35 old people, with a resident staff of two, and it is intended that the building should be run on hotel lines rather than institutional. With this end in view all the public rooms face the sun. The majority of bedrooms have east aspect and colour schemes throughout are bright and cheerful.

Construction.—External walls are loadbearing 11 in.





FIRST FLOOR PLAN



GROUND FLOOR PLAN

SCALE 0 10 20 30 FEET

cavity walls in Sussex hand-made bricks. Staircases and balconies are *in situ* concrete. The first floor and roof are of timber construction, the latter employing TDA trusses to span the width of the building with rafters at 1 ft. 4 in. centres. The tiles are double Roman interlocking, laid to a 32½ degrees pitch over untearable felt.

Ceilings throughout are ½ in. fibre board, with exposed "V" joints, the fibre board forming the first-floor ceiling being reinforced with metal angles on the back, in order to span the 4 ft. between joists.

All windows are metal, mainly from the standard "Z" range with special composites to gables and staircases. Gable cladding is asbestos Trafford tile.

Brickwork is multi-coloured sand-faced; windows, balustrades and fascias painted white; gables and down pipes dove grey; main doors yellow with black frames, other doors grey with yellow frames; balcony columns pale blue.

The ground floor has hot water coil heating in the floor slab, first floor has radiators.

The contract price was £31,804 including all paving and site layout. Following is a list of sub-contractors:

Tiles, Colthurst Symons and Co., Ltd.; heating and hot water system, Benham and Sons, Ltd.; windows, Henry Hope, Ltd.; electrical work, Hall and Stinson, Ltd.; artificial stone, Blockcrete, Ltd.; patent flat roofing surface, D. Anderson and Son, Ltd.; sanitary fittings, Shanks and Co., Ltd.; semastic tiling, Semtex, Ltd.; ceilings, James Chandler (Lewes), Ltd.; asphalt, Ragusa Asphalte Paving Co.; Aga cookers, Louis G. Ford, Ltd.; balustrades, Southern Ironcrafts.

View from top of main stair, through fire-screen.

"PARTRIDGE HOUSE," BRIGHTON

Main staircase in entrance hall.

RIBA

Notes from Council Minutes

THE following notes are taken from the minutes of the RIBA Council meeting held on October 13:—

APPOINTMENTS OF RIBA REPRESENTATIVES ON:—

(a) *Central Panels Committee, CPRE*: Mr. John L. Denman (F), Mr. A. W. Kenyon (F), Mr. C. W. C. Needham (F), Mr. Stanley C. Ramsey (F) and Mr. A. L. Roberts (F)—reappointed.

(b) *British School of Archaeology at Athens*: Mr. Martin S. Briggs (F) in place of the late Mr. Henry M. Fletcher (F).

(c) *Women's Advisory Council on Solid Fuel*: Miss Evelyn Drury (A)—reappointed.

(d) *General Certificate of Education Joint Examinations Board: Examining Body for Technical Studies*: Mr. J. Kenneth Hicks (F).

(e) *Ancient Monuments Board for England*: Mr. Martin S. Briggs (F) in place of the late Sir Banister Fletcher (F).

(f) *National Plumbing Trades Apprenticeship Council*: Mr. W. A. Gutteridge (F)—reappointed.

(g) *Wolverhampton and Stafford Technical College Building and Civil Engineering Advisory Committee*: Mr. Bertram Butler (F) and Mr. S. P. Hayward (L)—reappointed.

(h) *RIBA Architecture Bronze Medal: Wessex Federal Society of Architects: Jury to consider Award*: Mr. David Booth (F), President, Berks, Bucks and Oxon Architectural Association.

(i) *BSI Committee M/40: School Furniture:* Mr. Oliver Cox (A) and Mr. G. Newell (A).

(j) *BSI Committee CEB/11: Glossary of Terms for Concrete and Reinforced Concrete*: Mr. F. H. Heaven (A).

(k) *Conference to consider Proposal for a Standard for Clay Lath for Plastering*: Mr. D. W. Aldred (F) and Mr. Sydney Howard (L).

RIBA Architecture Bronze Medal: Nottingham, Derby and Lincoln Society of Architects.—The Secretary reported that the jury entrusted with making an award for the three-year period ended December 31, 1952, had made the award in favour of the new Generating Station for the British Electricity Authority at Staythorpe, Notts, designed by Messrs. T. Cecil Howitt and Partners (F/A/A). (T. Cecil Howitt (F), Philip Gerrard (A) and F. E. Woolley (A)).

The Council gave formal approval to this award.

Royal Society of Arts: Bi-centenary Celebrations: March 22, 1954.—The Secretary reported that the President had been invited to attend the Centenary Meeting of the Royal Society of Arts on March 22, 1954. The Duke of Edinburgh would take the chair at the meeting and addresses of congratulations were to be presented.

It was agreed to prepare an address of congratulation from the RIBA.

Rules of Allied Societies.—Approval was given to amendments to the rules of the South-Eastern Society of Architects and to newly drafted rules for the Uganda Chapter, East Africa Institute of Architects.

RIBA Dinner, 1954.—It was agreed to hold a dinner at Grosvenor House on February 19, 1954. It was left to a sub-committee to go into detailed arrangements.

Building Research Programme, 1954.—The Secretary reported that the Royal Institute had been asked to comment on the Government's proposed programme of building research for 1954 and to submit any observations by the middle of October. The Science Committee had considered the proposed programme.

It was agreed to submit certain comments made by the Science Committee.

Fire Protection of Buildings of Architectural and Historic Importance.—Approval was given to the action taken by the Science Committee in collaboration with the Fire Protection Association and other interested bodies, in formulating recommended measures for fire protection in buildings of architectural and historic importance. Two documents are being prepared, one taking the form of a schedule of specifications and precautions to be taken by contractors when working on such buildings, and the second that of guidance to owners of important buildings.

Nuffield Foundation: Proposed Division for Architectural Studies.—The Council were informed by the Nuffield Foundation of their intention to undertake research on the design and construction of scientific laboratories and to consider similar work on agricultural buildings. It was agreed that the Royal Institute would be willing to collaborate in the proposed work.

The late Sir Banister Fletcher (F): Bequest to the RIBA.—The Secretary reported that under the will of the late Sir Banister Fletcher (F), a number of bequests had been made to the Royal Institute, including books from his library and a number of personal mementoes. Financial provision had also been made for the Sir Banister Fletcher Essay Prize and for an annual prize for the student obtaining the highest marks in the RIBA Intermediate Examination. A further bequest was likely to be available, subject to the settlement of certain conditions and to the winding up of the estate.

Sessional Programme

THE FOLLOWING programme of general meetings and lectures for the session 1953-54 has been arranged by the Royal Institute of British Architects:—

Nov. 3.—President's inaugural address and presentation of London Architecture Bronze Medal. *Dec.* 8.—"Building Without Grace: An Aggressive Examination," by Mr. Siegfried Charoux, ARA. *Jan.* 5.—Announcement of award of prizes and studentships. "Honour Your Forbears," by Mr. John Betjeman. *Jan.* 19.—"Building Economics and Builders' Plant," by Mr. H. F. Broughton. *Feb.* 2.—President's address to students. Criticism by Mr. Basil Spence, OBE, ARA, FRIBA, of work submitted for prizes and studentships. Presentation of prizes. *Mar.* 23.—"Changing Ideas on Colour, with some Technical Implications," by Messrs. H. L. Gloag, ARIBA, and D. L. Medd, ARIBA. *Apr.* 6.—Presentation of the Royal Gold Medal. *Apr.* 13.—"Mechanical Installations for the Conveyance of Persons and Goods in Building," by Mr. P. T. Fletcher, BSc(Eng), MIMechE. *May* 4.—Annual general meeting. *May* 18.—"Architecture Criticism," by Messrs. Ian Leslie, HonARIBA, and Ian McCallum, ARIBA. *June* 15.—Council election results. Discussion on model building by-laws.

SIR BANISTER FLETCHER'S ESTATE

Bequests to RIBA and Other Institutions

SIR BANISTER (FLIGHT) FLETCHER, past-president RIBA, former Master of the Worshipful Company of Carpenters, left £115,520 (duty paid, £54,167).

He left £3,000 to the Honourable Society of the Inner Temple, the income to be applied in the maintenance, improvement or extension of the library, the purchase of books therefor, or any charitable purpose for the benefit of the members and students of the society as the benchers think fit; £2,000 to the Society for the Protection of Ancient Buildings, upon trust, to apply the income in or towards the provision of a scholarship to be known as "The Sir Banister Fletcher Scholarship," in memory of his father, brother Herbert and himself; £2,000 to the Architects' Benevolent Society; £1,500 to the Worshipful Company of Carpenters, the income to be applied in or towards annual medals or prizes for the Company's school, or such purposes as the court of the company think conducive to the technical training of craftsmen; £1,500 each to the Royal Institute of British Architects, University College, London, for the Bartlett School of Architecture, and the Polytechnic School of Architecture, for the provision of prizes; £1,500 to the Authors' Club, the income to be applied in or towards an annual prize for the book on architecture or the arts which the committee of the club think most deserving; £1,000 to the London Society, the income to be applied in or towards the provision of an annual lecture, to be known as "The Sir Banister Fletcher Lecture," on architecture, town planning, gardens, or open spaces affecting the amenities of London; £100 to the Royal Institute of Architects in Ireland for its general purposes, and the hood and gown of Master of Architecture of the National University of Ireland "which was presented to me by that institute when that degree was conferred upon me"; and, after other legacies and bequests, the ultimate residue as to a half to the Royal Institute of British Architects and a half to the University of London.

LIVERPOOL HOUSING

"Rate of Progress that can Hardly be Bettered"

LIVERPOOL CORPORATION has established what is believed to be a post-war national house-building record on one of its new housing estates.

This is at Kirkby, where 1,000 houses have been built in under 500 days. Operations started in March of last year, and Ald. Sir Alfred Shennan, leader of the Liverpool City Council, recently declared open the 1,000th house.

DR. RONALD BRADBURY, FRIBA, AMTPI, city architect and housing director, says this is a rate of progress that can hardly be bettered in the whole of the country. The dwellings erected include flats and 680 cottages of all types. Eventually 12,500 dwellings will be built at Kirkby to house 47,500 people, the lay-out having been designed by Dr. Bradbury.

The dwellings now constructed represent the first instalment by the Unit Construction Co., Ltd., who have nearly another 2,000 houses well advanced. The target for the coming year is at least four houses a day.

THE PHILOSOPHY OF DESIGN

An Architect's Lecture to Engineers

A MEETING of the Engineers' Guild, held at Caxton Hall, Westminster, on October 22, was addressed by MR. EDWIN WILLIAMS, MBE, FRIBA, MTPI, on "The Philosophy of Design." Mr. R. W. H. Couzens, AMICE, presided.

Mr. Williams said that design had been discussed too long for there to be anything of importance left unsaid; he proposed to offer an outline of an attitude rooted primarily in organic and not in scientific, geometric or arithmetical preoccupations. Most people thought of drawings, blueprints and the like when the word design was used; some even narrowed the field to the use of circles, rectangles and triangles; but design itself seemed to be a concept rather than a material thing or an act.

Design was often quite flexible in character and contained the germs of fitness and purpose. At either extreme of thought upon the subject there were two conflicting schools. One of these maintained that design was a matter of personal inspiration or genius, and recognised no other rules, while the other enslaved all human judgment to the findings of scientific or geometric argument. There were numerous theories between these extremes. Was it possible to base a criterion of design upon natural law? Some engineers denounced laws of any kind as productive only of standardisation and monotony, and this might be true of man-made laws; but nature's organic laws resulted in a fertility and variety of design with which man could not compete. Yet the scale on which man embarked at times was sufficient to blot nature out of his own vision.

Presentation was the language of design with grammar, syntax and accidence, the purpose of which was to assist comprehension. Nature went to great lengths to give comprehensive forms to her ideas and did not regard functional or mechanical efficiency as adequate. She dressed her ideas up in colours, texture and pattern, endowing each character with a visual individuality of its own, enabling it to be differentiated from others; and if nature went to such trouble to give formal qualities to her creatures it would seem reasonable that man should approach his own design problems in a similar manner.

THE ART OF DRESSING UP

Some great engineers, such as Rennie and Wren, understood this art of dressing-up; it was an art enabling them to endow their works with formal and organic qualities, so bringing those works within the realm of architectural design. Some designers endeavoured to simulate in their work some other already existing totally different idea. For example, they made a house look like an aeroplane. This might be acceptable sometimes as a joke. Other designers sought to present their ideas in a form which nobody but they themselves could understand. Such absence of comprehensible or good form was bad form. Form might be endowed with abstract qualities, and of such qualities three, i.e., truth, efficiency and beauty, had come in for a great deal of attention and discussion.

Truth was subject to infinite modulations. It had many facets. It was therefore a quality rather than an absolute virtue. Truth was said to be beautiful; but on occasion truth could be ugly or be used for ugly purposes. Some talked about truth in design, others about beauty in design. Some claimed that to be really truthful a thing must be functional, and then it became automatically beautiful. He suspected that most engineers were nudists in respect to the visual aspects of engineering, but dressing-up was not purely an artificiality. Amongst other things, dress was used to bring discordant elements into a state of harmony.

Mr. Williams continued: It is not so very long ago that there came into our living-rooms a piece of unadorned mechanism bringing radio into our lives. Whatever may have been the mechanical merits of the apparatus, it was found necessary to dress it in harmony with the other occupants of the room—the table, the clock, etc.—once it was established that it was to become a recognised member of the family. Making it look like a piece of furniture or domestic equipment is not untruthful, for this is, after all, what it has become.

In achieving this harmony within the family circle, said Mr. Williams, the radio set has expressed the quality of good manners. A housewife going to a party would not go in her working clothes, but in a party dress. In this connection he had always regarded it as an offence against propriety that sanitary engineers generally insisted on plumbing arrangements being exposed on the outside of buildings. We suffered this engineering and mechanical disfigurement on the noblest as well as on the meanest façades. Some engineers insisted on structure being expressed externally, much as a fakir displayed for your delectation his every rib. This expression of structure might be interesting technically, but it added nothing to your joy in living or your peace of mind. Manners were a discipline designed to secure outward harmony, the relation of the part to the whole, and the suppression of unnecessary discordances, and without some such discipline æsthetic composition could not be achieved.

THE NEED FOR PUNCTUATION

Mr. Williams continued: As prose and poetry have periods, design must have a sense of punctuation. Its use may mean more than the end of one idea and the beginning of another. It may become the rhythm, the beat or even the climax. It may heighten the effect like the polish on a finger nail, the carving on the finial, the frame of a picture or the wave of the handkerchief at good-bye. As an architect addressing engineers, I should perhaps feel a little diffident about mentioning arithmetic as an important part of design, but there is an aspect of design that relates to arithmetic rather than to mechanics, and it centres round the initial conception of harmony as the keynote of coherent form. The antithesis of unity is not necessarily plurality, for plurality can with skill be presented as a pattern forming unity. The opposite of unity is obviously disunity. When we go from one to two in number we immediately step into the realm of possible discord. Subdivision into equal halves is therefore to be handled carefully. Unity may, however, be achieved where one individual is complementary to the other, as in the case of a pair of lovers.

The third canon of aesthetic syntax is inflection. Its purpose is to mould together the elements of a design, rub off the corners, soften the individuality of the lines and weave the various parts and members harmoniously into a pattern. If, instead of ignoring your neighbour you wish him good morning, you are not only displaying good manners, you are inflecting yourself towards his existence, recognising that he, too, is a citizen with equal rights and an integral part of your community. Unresolved dualities can usually be cured by an appropriate amount of inflection, and it is by this means one achieves a pair as a recognisable combination.

An axis is familiar enough as an imaginary or sometimes dotted line about which we endeavour to balance a structure. In a broader sense of design it becomes rather more than a dotted line: it is the path of our intentions, the route of our adventure, the structure of our sculpture, the focus of our picture or the key signature of our symphony. Our human axis may be expressed by the cerebral vertebrae uniting the two inflected halves of our body into a unity surmounted and dominated by the headpiece which contains our intellect. Our limbs are punctuated by our hands and our feet; our various members functionally articulated and nicely proportioned in relation to each other and to the whole; and our complicated armature and engineering and plumbing arrangements are discreetly subordinated so that we can recognise in the human form itself an example of a grammar or design based on natural laws.

TRADITION AND MODERNITY

Mr. Williams showed some lantern slides to illustrate his remarks, and then continued: I have sometimes been asked whether all tradition is good and all modernity bad or *vice versa*. As a designer I could not possibly approach design from that angle at all. There were defects in the past as in the present. Generally the efforts least fitted to survive have been allowed to perish, and we are left with a residue of the more successful. Posterity will similarly deal with our current contribution to this continual process of decay and rebirth. Sir Raymond Unwin said that the purpose of originality is to enrich tradition, and the purpose of tradition is to conserve what is best fitted to survive. So be it.

If I may make a final observation it would be in respect of the contemporary approach to design. It seems to me that in the great transition from the renaissance to modern times, the designer in scaling down some of the graces and embellishments of our forefathers to the streamlined necessities of the present day, has become a little remote from nature and contemptuous of the lessons she has to teach in the field of design, a field in which man is an outclassed competitor. The designer's creations have tended to become inorganic, insensitive, strident and aggressively unneighbourly. Fortunately and inevitably there are signs of a general reaction. It is important that with this swing of the pendulum designers do not allow themselves to be swung to the other extreme, and taken up into some other blind alley. Collectively we form the expression of the age in which we live, and posterity will judge us by the results we produce or tolerate. None of us would like to feel that the age was judged to be a dark age in the history of design, an age in which manners and arts were substantially defective. This is what I fear would happen if we became technically far too ingenious and assumed we had nothing to

learn from nature. This does not mean that we must copy nature. But we can learn from her and thus endeavour to be in harmony with her and with one another.

DISCUSSION

In the discussion that followed MR. MEASOR said that originally the fields of architect and engineer were not clearly defined, the man who one year designed a country house might next year do some engineering; but now everything was specialised. At one time it was thought that if you designed a thing which was efficient it must look all right, but, as Mr. Williams had said, the pendulum tended now to swing the other way. Engineers could sometimes do architecture on the grand scale, e.g., a very large bridge contained a beauty on account of its form; but a very large dam might or might not be a beautiful thing. Where the engineer worked with the architect it was the job of the architect, with the material available, and in the absence of a mathematical form of solution, to produce a structure which was beautiful. The architect was trained to do this, and it was instructive for the engineer to get inside the architect's mind.

MR. TURNER said that in engineering it was natural to assume that what was really truthful in design would turn out beautiful; but there were snags. One of these was material: we did not really know the properties of our materials.

MR. AVERY said that Mr. Williams had ignored finance. How did he reconcile his ideals with severe financial restrictions?

MR. CLARK said that nine months ago a lecture had been given at the Institution of Electrical Engineers on the actual measurement of shape. No one knew why a particular shape was beautiful. Area was partly the answer.

MR. PAXTON said the perfect form had a lot of fitness for purpose.

MR. HORNER said we were getting to the end of the period of over simplification and might hope for buildings to be more interesting. The ordinary individual liked a little decoration. The very plain façades that had been fashionable were not functional. Water accumulated on them and ran down the face of the building causing streaking. In the older buildings, where elevation was broken by horizontal lines, each of these had its own drip by which water was thrown off. Another point was whether a Georgian design in a building was actually bad to-day. He had the impression that modern design should be in a modern style.

MR. DAVIES said he threw in his lot with the majority, who pleaded for more curves. He got upset at seeing so many buildings no more than inverted boxes. One of the reasons for so much austerity was that there were not the craftsmen to embellish buildings as there used to be. He lived in a Georgian house with Adam ceilings and Adam mantelpieces. In the modern flat there was hardly headroom. In many ways the old buildings were better. They were easily heated and retained their heat because of their thick walls.

MR. WILLIAMS replied to the discussion.

Building Surveyor Examinations

At the RIBA examination for the office of building surveyor under local authorities held recently, 16 candidates presented themselves and the following were successful: Ernest R. Bingle, Patrick S. Forder, Frank C. Newby, Henry L. Stephenson and Herbert F. Turner.

SYMBOLISM AND ARCHITECTURE

A Discussion at the AA

THE place of symbolism in architecture, as a subject for discussion, attracted students in such numbers as to overcrowd the hall of the Architectural Association at Bedford-square on October 21. The meeting was called by the Students' Committee, and Mr. Colin Glennie, chairman of that committee, presided.

MR. FELLO ATKINSON said that good technicians were produced by the present system of training, but the symbolic value of architecture was overlooked. For a long time it had been accepted that certain buildings should take on a certain form. A church, school, concert hall, block of offices and so on, were each expected to look in its own way. But he could not see that when one evaluated a building as a building, one took in whether it was a church or block of flats, or whether it was successful as such a building. It was assumed that the architect had a sufficient knowledge of technique for this, and what one first saw was that the building was or was not successful visually.

An architect answering technical problems might be compared with a painter preparing his canvas properly. Another thing was that one must assess the particular conception of a building according to its position in a town or wherever else it might be. Some time ago he had come across two cottages satisfactory as places to live in, but ruining a perfectly good place.

Where planning could not be adapted to achieve a satisfactory result visually, money must be spent to give the building some sort of symbolic monumentalism so as to bring it into the greater scheme of things.

LIKES AND DISLIKES

MR. REG BUTLER said the question was a subjective one. You could not examine a building objectively and extract from it a symbolic content. He was entitled to say that he liked the Albert Hall, or the latest Corbusier building, without giving any reason to justify his liking. Jung and others who had given thought to the question, agreed that where a symbol could be broken down into some kind of verbal equivalent, where you could say the building was symbolic of something or other, the symbolism became a magic signal. Such a signal was associated with a particular plastic form. People took the form and repeated it. Thus, long horizontal lines were used to give a sense of repose and vertical lines to suggest activity. In speaking of symbolism, he was referring to the peculiar magic that came into a work of art; when for example, one derived a sense of satisfaction from it, but was unable to transform that experience to cold-blooded terms of analysis. To design a symbolic building you should design a good building, because symbolism was whatever was good about the building. It was the magic you instilled into the series of answers to your problems.

MR. ST. J. WILSON said the discussion should have been called "Architecture as a symbol." Such a title assumed that while architecture was a technique, that technique would always be put to use for some moral, philosophical or religious end. This was a scientific age and our attitude towards symbolism was not concerned with abstract principles such as truth, but with our actually doing things. Thus, if we designed a block of flats we did not engage a sculptor to decorate the building with statues representing health, happiness and beauty; but we tried to incorporate those principles in plan, section and elevation so as to make it possible for the people who lived in the flats to be healthy, happy and beautiful.

To-day all our thought was of structure —this remark applied to philosophers, physicists and all other thinkers—and architecture was the dynamic aspect of structure. It was structure in movement and evolution, and the architect tried to give a unique and perfect form to a specific kind of function.

MR. R. FURNEAUX JORDAN said he had tried to think of a number of forms of symbolism that could be incorporated in architecture, and found that you could have (1) obvious symbolism that anybody could read, (2) indirect which you had to be educated to understand, (3) repulsive symbolism, and (4) negative symbolism. As to direct symbolism, such as using a peacock to express vanity, he could think of only a few buildings of that kind. When a building was said to symbolise something, the indirect symbolism, what we meant was that the building expressed that something, which was an entirely different matter. A Gothic cathedral might express aspiration and a Byzantine building tortured gloom, but they did not symbolise it. Repulsive symbolism was that symbolising something we did not like.

Negative symbolism was that where the architect had taken much trouble to impress the mind, but had failed. In the case of the YMCA building, a great deal of thought had been put forth to cover it with various symbolic forms, but it was one of the least noticed of buildings. There was a false symbolism, such as the Ionic monumentality of Selfridge's intended to make the sleepwalkers of Oxford-street think it was a great national shrine. Having examined these forms of symbolism he had rejected them all because they were expressive of certain things. They said something good or bad, and in that respect the architect usually succeeded in his aim, worthily or disgracefully, without symbols.

Among the points put forward in the long discussion which followed, was one to the effect that we did not use symbols outside shops, as was done in the middle ages. We put up a word, e.g., restaurant. Another speaker thought that we might search for years and not find any symbolic meaning in a building, but in 200-300 years' time people might find a symbolic meaning in it because it symbolised our time.

BOOKS RECEIVED

*** *Books reviewed in these columns may be obtained on application to the Book Dept., "The Builder," 4, Catherine-street, Aldwych, WC2. Cash (which should include 1s. to cover postage and packing) should accompany the order.*

A SHORT DICTIONARY OF ARCHITECTURE. By Dora Ware and Betty Beatty, ARIBA. (London: George Allen and Unwin, Ltd.) Price 12s. 6d.

THEORY AND PRACTICE OF STRUCTURAL DESIGN APPLIED TO REINFORCED CONCRETE. By B. Eriksen. (London: Concrete Publications, Ltd.) Price 25s.

THE ART OF SIGN WRITING. By B. Hearn. (London: B. T. Batsford, Ltd.) Price 21s.

ARCHITECTS' WORKING DETAILS. Edited by D. A. C. A. Boyne. (London: Architectural Press.) Price 21s.

BUILDING FOR MONEY

A Paper at the Royal Institution of Chartered Surveyors

THE background to large-scale private enterprise urban development, and the problems which face building surveyors in maintaining and repairing the buildings produced by such development, formed the subject of a paper on "Building for Money," by MR. OLIVER S. CHESTERTON, MC, FRICS, which was given at a general meeting of quantity surveyors at the Royal Institution of Chartered Surveyors in London on October 21, and from which we take the following extracts. Mr. Chesterton said:

The Building Developer

Those of you who were not in practice before 1938 may be interested in some comments on private enterprise development. In these days, when the bigger jobs are for the most part either directly or indirectly Government promoted, it is difficult to remember that the private developer was an important, perhaps the most important, client before the war.

It goes without saying that a developer has to have his finger on the pulse of the property market if he is to be successful. There are fluctuations in the property market as surely as on the Stock Exchange, but the signs are harder to read and the general trend more slow to react and make itself felt. The developer's first problem, therefore, is to decide what sort of building is in demand and whether that demand is increasing or not. This sort of job carries a certain element of risk, although it may be possible to make an approximate calculation of this.

Finding an appropriate site for the type of development envisaged is never easy, but it is easier to-day than before the war.

I have said that the developer has to have his finger on the market and to be prepared to take a risk. It is equally important that he either has capital or can borrow some. There are probably lots of shrewd gamblers, but it is the man who has the financial backing who can do the business. Broadly speaking, individuals do not finance building schemes; the money comes from banks, insurance companies and institutions of that kind who have money to lend and are prepared to back a sound scheme at a suitably rewarding rate of interest. What that rate will be depends not only on the risk inherent in the scheme but also on the money market at the time.

Clearly, the developer, before embarking on his scheme, has to have a fairly accurate notion of his ultimate return on any scheme, and to be certain that, if all goes well, this return can properly service the loan he must take up and still leave something over to give him a satisfactory dividend on his equity.

THE RETURN

This is perhaps a good moment to say something on the question of how the valuation surveyor fixes his rentals upon buildings that are projected. The whole business is just the reverse of what happens when a builder prices a bill of quantities and puts down his own idea of the rates at which he can do the various tasks to arrive at an estimate. The valuation surveyor should have within his experience and knowledge a number of examples which are sufficiently similar to the one he is considering to enable him to check his figures. In an office or commercial building, however, the foot super basis is a very handy one to adopt.

Normally the mechanics of the business consist of the formation of a company to carry out the development, and the subsequent borrowing by way of bank loan, mortgage or the issue of preference shares of the greater part of the necessary finance. The ordinary shares of the company, subscribed by the developer, constitute the equity and will contain his profit.

It must be remembered that the developer's equity is reckoned to earn more than the rate suggested by the overall return on the capital cost of the scheme, since the servicing of the loan is being looked after at a lower rate. Thus, for example, suppose that the overall return on a £400,000 scheme is 8 per cent. and the developer has been able to borrow £300,000 at 5½ per cent.; the income from the scheme is £32,000, of which only £16,500 is spent in loan charges, thus leaving £15,500 as a return on the equity of £100,000, or 15½ per cent. It is, indeed, only reasonable to expect some such rewarding rate of interest to be left for the developer in return for the risk that he has undertaken.

If the block is to be sold, then you will appreciate that it is bought on the basis of its probable future net return, allowance having been made in the calculation for, amongst other things, the cost of maintenance repairs. It is probably true that if a block changes hands soon after it has been built, then the surveyor valuing it for purchase is likely to take a fairly rosy view of the maintenance costs; but where a block is held for some time, perhaps even for 25 years or more, then maintenance questions should be very carefully considered in arriving at the purchase price.

FUTURE TRENDS

I have given only a very general outline of the background to large-scale urban development, and it is pertinent to ask, "will it start up again soon?" My own view is that we shall see, indeed we are already seeing, a return to large-scale schemes providing office blocks, multi-storey blocks for light industry, and certain other commercial buildings. In all these cases a reasonable return can be expected, even at present-day building costs, because rents will be payable by the tenants out of their gross profit.

On the other hand, private enterprise is unlikely to be tempted to undertake large-scale flat development or the wholesale building of high-grade housing in central London of the Chelsea-square type. The reason is that the rents which constitute the return on such schemes must come from the net income of the individual tenants, and at the present rate of taxation no one can afford to pay a rent out of his net income which represents the proper return on the capital costs involved in building high-grade housing to-day.

Subsequent Maintenance Problems

Having so far talked only of the background to development schemes, let us now consider the problems of the building surveyor when he comes to deal with the repairs and replacements in the buildings long after the final account has been settled and forgotten.

It is very necessary to strike a proper balance between low initial cost, with high maintenance bills as a possible consequence, and higher initial costs aimed at minimising future maintenance. It seems that this is a point at which quantity surveyors can bring their influence to bear, and may I, therefore, set out some of the points which have caused trouble to building surveyors in the past, but which perhaps might be avoided in the future.

FRAMING

From a maintenance point of view there is nothing much to choose between steel or reinforced concrete framing, provided always that the steelwork is solidly encased in an adequate way. I have recently come across two separate buildings, one a block of flats and the other an office block, in which the steel framing externally is partly and inefficiently cased in stone. This has had unfortunate results, for the joints between the stones have allowed moisture penetration which, owing to the absence of any efficient grouting between stone and steel, has caused oxidisation on the joists and, in one instance, on a stanchion. Layers of rust have built up over the years to such an extent as to push the facing masonry out of place or to cause fractures in it. It is clearly very expensive to set matters right in this case; masonry has to be carefully removed, the steelwork thoroughly scaled and painted, and the masonry renewed or replaced and proper grout forced home to avoid a repetition of the trouble. In parts of the office block it was found to be cheaper on elevations which did not matter to case the steel in concrete and finish with the appropriate mouldings in a rendering made up with stone dust to match the remainder.

ROOFS

Most large buildings of the type about which I am speaking this evening have some form of reinforced concrete floor which forms a flat roof. This flat is commonly weathered with asphalt. I have more than once been most disappointed with the lasting qualities of asphalt in large, flat roofs of this kind. There is a tendency for general cracking of the main surfaces as well as for cracking and creeping on the skirtings most exposed to the sun.

Recently I had to strip completely an asphalt roof on a block of flats which had been built only 14 or 15 years ago. In this particular case the cracking in the general surfaces of the asphalt did not follow lines of beams, as sometimes happens, when the blame can be laid upon the fact that there is excessive expansion and contraction in the framework on the building and expansion joints are insufficient or non-existent. I can only conclude that this general cracking resulted from excessive expansion and contraction in the asphalt itself, particularly having regard to the fact that a very large area was involved. First-class asphalt roofing contractors will tell you that this sort of cracking ought not to happen if the asphalt is correctly prepared and laid; no doubt they are right, but it is tempting, when trying to keep down the cost of a job, to employ an asphalting firm of no great reputation, because they have quoted a highly competitive price.

From the building surveyor's point of view, therefore, I plead with quantity surveyors either to make certain that asphalt roofing is carried out by a first-class firm, or else that some form of patent built-up bituminous roofing with a tile paving finish should be used; some of these patent finishings have the advantage of not only

protecting the roof from traffic, but also of incorporating insulation. Care must still be taken with flashings at brick upstands and at gutters, where trouble so often begins.

I consider that asphalt is an undesirable finish to timber roofs; and from the point of view of subsequent maintenance, I would also suggest that it should not be used upon roof slopes, even with all sorts of protections to anchor it against creeping.

PRECAUTIONS AGAINST DAMP

Many of the everyday headaches of surveyors who look after blocks of flats and offices arise from dampness in one form or another. There are innumerable causes of such trouble, but poor design and detailing often proves to be at the bottom of it. For example, parapet walls round flat roofs either have no damp courses or they are incorrectly arranged; sometimes one or other of the sides of a parapet wall is rendered so as to provide, in effect, a conductor for moisture which can by-pass the damp course. Similarly, copings must be designed to throw off the weather well clear of the brickwork which supports them. In these days, when it is fashionable to omit cornices, and even projecting cills to window openings, particular care must be taken to see that all small breaks and offsets are properly weathered with flashings and aprons.

This is another source of trouble to the building surveyor, and the difficulty often arises because the plumbing to and from sanitary fittings is concealed in ducts. This is highly desirable from many points of view, but it means that minor leakages can continue undetected for a long time, and also it sometimes means a difficult job for the plumber who has to repair the leak. It should be possible to arrange the feet of the ducts so that they can be inspected as a regular daily routine by somebody who is employed in the building, such as a porter or handyman; this would mean early detection of trouble. It would also be ideal, from a maintenance point of view, to have the ducts fully accessible from floor to ceiling on all floors with some form of casing over them fixed with cups and screws.

It would also be a great help if, as a matter of routine, all rainwater pipes were not only not built into chases, but were fitted on distance pieces or cast ears so as to enable painters to do their job properly.

FLOORS AND FLOOR FINISHES

Many modern commercial buildings are being finished with one of many different kinds of thin floor tile set in mastic. These seem to be very successful, for they form at the same time a floor finish and a floor covering and do away with the necessity for yards of linoleum. They have not, however, been in use long enough for their lasting qualities to be properly tested

No doubt, before long, timber will be freely available once more, and we shall see a return to the boards-on-fillets finish to concrete floors. I am not entirely happy about this method of construction, for I have twice known dry-rot to result from it, and a difficulty frequently found in blocks of flats is that the strip floors have a tendency to squeak as the fillets become loose. Where this form of floor finish is used, the moral for future buildings seems to be to make certain that the floor clips or fillets are properly fixed, and that the impregnated fillets themselves are set either above or below a continuous damp-proof membrane.

There is little doubt that in high-class office buildings there is nothing to beat a teak block for long-lasting quality; but, even here, care must be taken to ensure that they are not washed down excessively.

Terrazzo is a splendid finish for corridors and lavatories; the cement in it seems to make it superior to paving marbles for durability under heavy traffic.

HEATING

Heating is another item that is apt to come in for a good deal of rough handling when the architect is trying to cut the price of the job. It is a pity to cheesepare on heating, and an adequate safety margin should be allowed. I know of an office block completed in 1937, in which the occupants of the top floor have found that they were being increasingly left out in the cold. Neither the boiler size nor the circulating arrangements were adequate, and some expensive carving about has had to take place.

The type of boiler and fuel to be used is a matter which closely concerns the building surveyor who has to run the block. Solid fuel is generally regarded as the cheapest form of heating, provided that the wages of a stoker are disregarded. If the use of solid fuel involves the engagement of a stoker, then comparative figures would probably favour oil-burning installation. Each case must be dealt with on its merits and in consultation with the surveyor-manager.

Adequate fuel storage is essential, and the bunkers should be ventilated efficiently to assist in evaporation of surface water coming either from casual rain or from excessively damp coke.

EXTERNAL FINISHES

If maintenance expenses are to be cut down, then the external finishes of a building should include the smallest possible amount of surfaces which have to be decorated. In particular, I have a strong aversion to the use of rendering or stucco in large areas. It needs constant attention and can rarely be patched without disfigurement in the building. I would rather not see it used even on such things as tank room or lift motor room walls.

I think that most building surveyors like to see a building faced in a good hard brick which has no tendency to flake or perish and which does not have the tendency to crack, as is sometimes found in certain sand-lime bricks. A brick finish of this kind will eventually need pointing, but I prefer it to stone in London.

It is well worth incurring extra expenditure in having metal windows proofed against rust.

Public stairs and landings have very hard wear and need a very tough decorative finish. It is possible that in normal circumstances the so-called plastic emulsion paints will give a good answer. It is a little early to report confidently on them in practice, but I can say that the staircase of one small block of flats which was decorated in this way 2½ years ago is standing up well to hard use and hard cleaning.

There are several types of these plastic paints with different constituents. From my limited experience I have found that the P.V.A. type seems to give the best results. Manufacturers, however, are constantly altering and improving these paints and it is possible that even better things are on the way.

Difficulty is often experienced, especially on top floors of blocks finished with flat roofs, from excessive condensation and from pattern-staining. This again points to the need for more generous insulation of roofs.

Roof insulation is often another casualty in the battle of "getting down to a price," but it is of the greatest importance not only for the comfort of the top-floor tenants, but also to avoid undue expansion and contraction in the framing of the building. Breeze partitions built hard up to the underside of joists cased in the roof slabs will crack regularly each year as the beam moves, unless the excessive change in temperature in the beam can be effectively reduced.

It is also worthwhile to consider finishing plaster ceilings in kitchen and bathrooms with with a porous lime putty and an absorptive decorative finish, since this may help to prevent condensation.

GENERAL SERVICES

There are many odds and ends which need consideration in the early design stages. Electric mains, for example, should have ample capacity to deal with increased demand which always seems to arise. Commercial and office blocks should have electric and telephone cables handily arranged in skirting ducts, or something of that kind, to meet the needs of the tenant.

I am aware that in fact all that I have advocated in the latter part of this talk is good, sound building. I make no apology for the fact that that is the conclusion to be drawn. It merely emphasises the point that I have already made: that the long-term maintenance repairs in buildings ought to be carefully considered when constructional design is being decided upon. It is a point for quantity surveyors to bear in mind, particularly in development schemes of the larger type, since inevitably there will be a temptation in many cases to cut the initial cost to improve the apparent profit.

ROYAL ACADEMY

Prize-giving Ceremony

THE tendency of many art schools in this country and the USA to adopt with "sheeplike docility" certain forms of modern art which are of doubtful value, was criticised by SIR GERALD KELLY, president of the Royal Academy of Arts, at a students' prize-giving ceremony at Burlington House, London, on October 20. He realised that the RA had its faults but this was not one of them, he said.

There were also a number of "superior" people who supported these modern techniques. In some cases they constituted a danger because they were in a position to influence the spending of public money.

Sir Gerald said that he did not like the combination of public money and art. It was much better in the days when the Pope or the King commissioned a job than it was to-day when the client might be the LCC.

He told the students not to be concerned if they could not admire the work of certain people whom the highbrow critics praised. It was only a matter of time before the critics would change their minds.

To emphasise the relative merits of the old masters and some of the modern artists who had achieved fame, Sir Gerald pointed out that it was an easy matter for anybody to forge a Picasso, whereas the great masters could not be copied unless the forger was incredibly skilful.

Among the prizes distributed were the RA grand prize for architecture (value £300) which was awarded to Iain Black, and a special prize for architecture (value £50) which was awarded to Mary Forster.

CHANGING CONDITIONS IN BUILDING

The Challenge to Quantity Surveyors

By JAMES NISBET

RECENT developments in the building industry are now appearing to be inimical to the continued progress of the quantity surveying profession, and judging from the reports of the discussion following Mr. K. K. Dale's paper* at the Quantity Surveyors Conference in June, 1952, some surveyors are becoming slightly apprehensive for the future of their profession.

These developments have resulted in a large increase in prime cost sums included in bills of quantities, and a consequent decrease in measured work. Although the number of PC sums has been increasing steadily for many years, it is only recently that they have reached such menacing proportions. At the present time it is not unusual for these sums to account for two-thirds of the cost of a job; in some jobs the proportion has been higher.

To say that the increase is due to inadequate pre-planning is to ignore some of the facts. The provision of adequate pre-contract information has been a problem during the last 75 years† and many bills of quantities for jobs which have been adequately pre-planned contain PC sums for the larger proportion of the works.

NEW TECHNIQUES AND THE QS

If bills of quantities prepared since 1875 are examined it is difficult to avoid the conclusion that since that time quantity surveyors have not readily taken to the measurement of new building techniques. At the end of last century, PC sums were negligible and the measured items (which represented practically the whole cost of a job) dealt with excavations, drainage, brickwork, carpentry, joinery, plastering, leadwork, glazing and decoration. In present-day bills the measured items deal with almost exactly the same type of work, but it is significant that they represent a much smaller proportion of the cost of a job, and that two of the engineering services introduced to building some 50 to 60 years ago (viz.—electric lighting and central heating) are rarely measured by quantity surveyors.

It may be argued that quantity surveyors could prepare quantities for work which is the subject of a PC sum, e.g., structural steel or reinforced concrete if they were provided with the necessary drawings and specifications —which is not often the case. On the other hand there are some specialist trades, e.g. electricians, where quantity surveyors, even if provided with the necessary information, would find some difficulty in preparing quantities due to lack of technical knowledge.

The fact remains that quantity surveyors are still measuring much the same type of work as did their predecessors some 50 years ago, and few new building techniques have been added to their accomplishments. If this is to continue, the quantity surveyor's basic function may disappear and sooner or later his services will be of little use to either client or architect.

The disposition to dispense with the professional quantity surveyors' services for new techniques does not mean that it has become unnecessary to prepare bills of quantities. The work is merely being transferred to other agencies. This is of great concern to the client, because much of the work is often prepared by unskilled persons whose calculations are not available for examination. The client therefore cannot be reasonably certain that he is getting value for money.

The reasons for the transference of part of the quantity surveyor's main function to other agencies are to be found in the complexity of modern building which is so very different from the simple processes of the mid-19th century when the present-day quantity surveying techniques were formulated. Building is now so complex and is developing so rapidly that it is impossible for an architect to design, detail and specify every component part of a building. Since the turn of the century he has been confronted with so many problems relating to new planning requirements, techniques, materials and labour that in many fields he has been compelled to concentrate on principles only, and to rely on others to work out details.

In many cases, particularly with services such as electrical and heating installations, the architect relies on specialist firms which he feels morally bound to nominate as sub-contractors. These firms usually submit a lump sum quotation, unsupported by quantities, to the architect. Hence the quantity surveyor finds that in such cases his services are no longer required.

The client does not save money by this means, since the work involved in detailed design and the preparation of quantities must be paid for. In fact, since many firms execute designs and prepare quantities for jobs which are never accepted, the cost of this abortive work must be recovered on the jobs they actually carry out. The client, therefore, frequently pays much more than he would have done if a professional quantity surveyor had prepared the quantities. Furthermore, since specialist firms rarely supply quantities with their quotations the client cannot be assured that he is paying a fair price for the supervision, materials, labour and plant involved in any particular job; or whether an architect's efforts to simplify and therefore to reduce the cost of a specialist's work is truly reflected in the quotation.

This state of affairs is obviously unsatisfactory to the client, but the practice is so far established that any suggestion requiring specialists to submit quantities with their quotations or that they should price a bill of quantities prepared by a professional quantity surveyor from their drawings and specifications is likely to be treated with considerable caution. But in such cases where specialists are to be nominated without competition it is essential that the client should be provided with sufficient information to satisfy himself that he is paying a fair price. This can best be done by submitting a priced bill of quantities.

In this connection it may be worth recalling that the Standing Joint Committee responsible for the Standard Method of Measurement—which by its nature and responsibilities exercises a considerable influence on the form and content of bills of quantities—consists of quantity surveyors and builders only. If specialist firms are to be encouraged to have quantities prepared for their use by professional quantity surveyors, it would appear desirable for them to be officially represented on that Committee.

Notwithstanding what has been said previously, consultants are extensively employed for projects requiring special engineering and scientific knowledge. This is particularly evident in the relatively new spheres of reinforced, prestressed and shell concrete constructions. These constructions often involve the structural shell of a building and represent a large proportion of the total cost. Hence there is an increasing demand from the engineering consultants for greater responsibility in the design and planning of a project. In fact, some go as far as to suggest that in some cases, at least, the architect should be employed as a consultant to the engineer.

Consultants are usually responsible for obtaining tenders for their own work which, when obtained, appears as a PC sum in the bill of quantities. Specialist firms who submit these tenders do not have a quantities rule like the National Federation of Building Trades Employers, and the tenders—frequently for very large amounts—are often obtained on drawings and specifications only. Where quantities are provided they are often prepared by the consultant, the consultant maintaining that specialised knowledge of his constructions is needed and therefore that he is best fitted to prepare the quantities.

One need not enlarge on the advantages to be obtained by having quantities prepared by a profession specially trained in this work, but the quantity surveyor is not likely to be asked to do so if he does not master the details of new constructions. Much more important, however, is the necessity to convince the consultants that it is in both their own and their client's interests to have quantities prepared by a profession particularly fitted for the work by background, training and experience. If they continue to prepare their own quantities, they will be responsible together with specialist firms for duplicating imperfectly an established profession.

NEED FOR CO-ORDINATION

The architect can be outclassed by the engineer, the scientist and the builder in each of their specialist fields, but when each is left to himself he tends to make his contribution so perfect that its cost restricts other aspects or uses of a building. Engineering, science and building are but the means of satisfying the client's requirements through the medium of the whole design and are not ends in themselves; to achieve a balanced result the architect must obviously remain the planner, co-ordinator and the aesthetic director.

In general, therefore, no consultant can reasonably usurp the architect's position, and all must work harmoniously together towards the common goal of good building at a reasonable cost. This means teamwork, and whether the team should be embodied in a large firm embracing all the skills required in building, or whether it can be achieved by some contractual arrangement or by other means need not be discussed here. It is, however, certain that one member of the team must be a quantity surveyor, for only bills of quantities can show the detailed cost of a job which is essential for efficient and rational design in all spheres of building. Whichever form the team may take, there is no reason why the quantity surveyor should lose the degree of independence he now enjoys. It is also evident that if the quantity surveyor insists on remaining outside the team and allows the present

* R.I.C.S. Journal Vol. XXXII Part II, August, 1952. *The Builder*, June 20, 1952.
† R.I.C.S. Transactions Vol. XII P. 287, 1880, and Vol. XL P. 331, 1907.

trend to continue, he might one day find that he is no longer his own master in this respect; furthermore, the client sooner or later will ask why he should employ a quantity surveyor when without apparent extra cost to himself his architect can obtain tenders for the larger portion of a job without quantities.

CHANGES IN CLIENTELE

For some time past the professions, and particularly the RIBA, have been trying to imbue the client with a little more patience. The client, however, is no longer the wealthy and leisured patron of the arts, but more usually takes the form of an impatient board of directors or local authority. As such, the client often knows little of the detailed preparations and operations involved in erecting a building, but he does know very definitely *what* he wants and *when* he wants it, and has very good reasons for forcing the pace; the housing authority must house the homeless, the education authority must provide places for the school children, and the director may lose valuable production while paying a high rent for an unproductive site.

In such cases the architect is likely to take short cuts, and if he can reduce the time normally taken by the quantity surveyor by getting a number of specialist firms to submit estimates for various sections of the work in a few weeks, it is not surprising that he does so. And if the tenders are within the client's means, then neither he nor the architect is likely to concern himself unduly whether the quantity surveyor is employed or not.

It is only too easy to blame some other person or section of the community as an excuse for omitting to do something oneself, and in this connection it is fair to comment that the Anglo-American Report on Productivity, which was published in May, 1950, has produced few, if any, practical results. There have been attempts, it is true, to simplify the Standard Method of Measurement, but the Standing Joint Committee was not due to start considering the evidence until after October 31, 1952, and the recent letter* from the Hon. Secretary indicates that no practicable means of simplification is yet in sight.

Whilst the methods of preparing quantities have not been authoritatively investigated, the method customarily employed in the southern part of England is known to be very wasteful of man-hours. The merits of this method relative to that used in Scotland and the trade-by-trade method have never been established, but on the face of it the latter method appears to be efficient and at the same time to use less man-power. It is possible that a research group consisting of Scottish, North of England and London quantity surveyors might develop a method of preparing quantities, embracing the best features of the three methods, which would reduce the number of man-hours involved and significantly speed up the preparation of quantities.

It has been maintained that the prime function of a bill of quantities is to assist the builder to arrive at his tender and to price variations thereafter. Nothing, therefore, should be inserted that is not essential for those purposes. This principle, conceived in the days when building methods and organisation were very much simpler than they are to-day, is still all-important. Builders, however, now use bills of quantities for other purposes—for ordering materials, for planning the work, for bonusing and as a specification in the absence of the proper document. A bill of quantities could, therefore, be a much more useful document if—without detracting from its prime function—it were written in such a way that it could assist the builder in these matters and so help to conserve man-hours and money. From time to time there have been requests from builders to alter the customary *format* of bills of quantities, and it would be surprising if their suggestions did not at least warrant a trial.

Architects have some difficulty in using bills of quantities without reference to their quantity surveyors, who frequently have to refer to the original dimensions. This state of affairs involves a considerable waste of time, and this, together with the almost customary absence of a specification, leads to the conclusion that annotated bills of quantities could with advantage become standard practice.

When programming a job it is necessary for the builder to group certain similar operations. These operations are usually measured in bills of quantities, but are arranged on a method based rather on price and units of measurement than their sequence in the building process. Since these groups of operations are nearly always sub-divisions of a trade there appears to be no reason why bills of quantities could not be written with programming in mind.

All these considerations give rise to the suggestion that a bill of quantities, in addition to its present use, should be a document embracing all relevant information concerning a job; in other words, a handbook essential to architect, quantity surveyor, builder and foreman alike.

INSISTENCE ON COST CONTROL

It has already been stated that the architect must rely on others for detailed information; he therefore looks to the quantity surveyor for detailed advice and information on costs.

In recent years, and particularly since the war, there has been a greater insistence on cost control. This has been brought about by the fact that the greater proportion of building is being carried out on behalf of local authorities and Government departments, which are not spending their own money and therefore try to ensure that they get value for money. This trend is very evident in the cost limits laid down by the appropriate Government departments for housing and schools. The increasing cost of building over the years, among other factors, has led to the increased employment of both architects and quantity surveyors on the understanding that they would ensure a better and more economical job. The imposition of the cost limit, therefore, follows quite naturally.

The imposition of a cost limit also introduces a new design factor for the architect and emphasises his need for detailed cost information at an early stage of his design. The quantity surveyor is always ready to assist with any problems relating to cost, but unfortunately much of the advice is unrelated to an overall cost plan. In most cases the only cost the architect has in mind is the total cost of the project, but the total cost is compounded from a large number of components, fittings, services and finishings —each with a wide range of costs. Unless the architect knows how much each element of his project should cost, he may waste a considerable amount of time and money by specifying unsuitable and expensive items. Costs per ft. cube and per ft. super, often used for approximate estimating, are insufficient for this purpose, and what is really needed is a cost plan indicating the amount to be expended on each separate element of a building.

The provision of this information is almost exclusively the quantity surveyor's responsibility, but to do so effectively he must study costs in a more systematic manner than is now the case. A suggested method of cost analysis and cost planning along such lines has already been published by the Ministry of Education,* and if this can be improved and extended, the quantity surveyor will become indispensable to the architect and will provide the client with a greater assurance that he is getting value for money. It will also go a long way towards avoiding the difficulties which occur when the lowest tender is above the cost limit.

This type of cost control requires close collaboration with the architect at an early stage of his design, when the quantity surveyor will be called upon to display a more detailed knowledge of costs than has been usual in the past. This can only be gained by a regular study of up-to-date costs and by maintaining a simple but effective recording system. The system (in addition to recording detailed cost analyses) should contain specifications, copies of plans and any other relevant information. The quantity surveyor will obtain much of this information from his own experience, but the Technical Press could help considerably to fill in the gaps by publishing reliable cost data. Already at least one architectural magazine† has published cost analyses supported by specification, plans, elevations, construction details and photographs, thus providing the quantity surveyor with most of the information he should require. If clients will continue to agree to the publication of similar cost information, the quantity surveyor can build up an invaluable store of cost data which should go a long way towards providing better building at no extra cost.

Cost planning therefore opens up a vast new field to the quantity surveyor where he can play a more valuable part in the design of buildings. With many changes taking place in the building industry, the quantity surveying profession is reaching a critical stage in its development where it must either accept or reject greater responsibilities. If it accepts them and is prepared to adjust itself and its methods to changing conditions, the profession will continue to flourish. If they are rejected, it may lose much of its importance.

The Builder, July 10, 1953.

* Building Bulletin No. 4, Cost Study.
† Architectural Design, March 1952, July 1952.

STEEL ERECTORS' STRIKE

Demand for Height Money

More than 400 steel erectors employed by contractors engaged on iron and steel work development schemes at Scunthorpe went on strike on October 22. The men, all members of the Constructional Engineering Union, struck after the expiry of 21 days' notice to the effect that they would not work over 40 ft. from the ground until a claim for additional height money was met.

The strikers claim is for increases of 2d. an hour at heights between 40 ft. and 60 ft., 4d. an hour between 60 ft. and 80 ft., 6d. at 80 ft. to 100 ft. and 6d for every additional 50 ft.

On Monday a further 30 men joined the 438 steel erectors already on strike.

PRODUCTIVITY IN HOUSE-BUILDING

New Building Research Station Report

A SURVEY of productivity in house-building by the Building Research Station, DSIR, has disclosed a remarkably wide variability in production levels in the industry, and also some of the more important causes of this variation. The survey was published on October 27, as * National Building Studies, Special Report No. 21. It is concerned with contracts for three-bedroom, two-storey houses built for local authorities and completed between January, 1949, and March, 1951. Information was extracted from the main contractors' records of 177 completed contracts and from more than 1,000 sub-contractors who were employed on them. The data collected in the survey relate mainly to the labour expenditure per house and particularly to the man-hours required by the individual trades.

A most striking feature of the results was the wide variation in the man-hours required for the same work on different contracts. Although the average man-hours required for the building of a house was 2,705, the contracts with highest and lowest productivity expended 1,565 and 4,645 respectively, a range of three to one. The variation in man-hours for individual trades (such as bricklayers, etc.) was even greater and here even the middle two-thirds of the contracts, which exclude all the exceptionally high and low values, covered a range of two to one.

The most important causes of the wide variability were the varying extent to which the work was sub-contracted and the effectiveness of incentive schemes operated on the contracts. To a lesser degree, the size of the contract, the quality of supervision and the contractors' experience of house-building all had their effect and there were in addition regional differences

Sub-Contracting

It was found that on the average house-building contractors sub-let about 25 per cent. of their work to specialist sub-contractors, although this varied widely between contracts and in the different trades. For example, the work of roof-tiling, gas-fitting, electrical installation and ground-floor finishings was almost always dealt with by sub-contractors, whereas sub-contracting was rare in excavating, concreting and bricklaying. In the trades of plastering, plumbing and painting the work was sub-let on about 50 per cent. of the contracts. Where these last three trades were sub-contracted, the man-hours expended were on average 15 to 20 per cent. less than where the main contractor employed his own men. The magnitude of this difference was also confirmed by the more limited evidence provided by the results in other trades.

Wide differences existed in the types of bonus schemes adopted on the various contracts. Broadly, however, these could be divided into two categories, "target bonus," in which payment was directly related to production against a set target, and "extra payment," which was not related to a target, but usually took the form of an addition to the wage rate. During the period of the survey, target bonus schemes were used on about one quarter of all contracts for local authority housing in England and Wales. Extra payment was made on about half the contracts and on the remaining quarter standard wage rates alone were paid. On the contracts and in the trades where target bonus schemes were applied, man-hours were on average 15 to 20 per cent. lower than where no such scheme operated.

In the smaller contracts where the work on site was directly supervised by the contractor there was, in the main trades, a reduction of about 15 per cent. in man-hours as compared with similar-sized contracts in which this direct supervision was absent.

There was evidence of an improvement in overall productivity as the size of contract increased. In the analysis of the individual trades, however, the only notable improvement was in bricklaying. There is little doubt that productivity in the remaining trades was affected to some extent by the size of the contract, but when these trades were considered separately the effect was small. For the bricklayers, the effect was pronounced, a contract for 40 houses requiring 22 per cent. less man-hours per house than one for four houses.

Regional Differences

For the study of regional differences in productivity, England and Wales was divided into three regions—the North, Midlands and South. For similar work, the main contractors' labour expenditure in the North was, on average, 10 per cent. lower than in the South, the Midlands being between the other two regions. In contrast with this, the labour expenditure of sub-contractors was lowest in the Midlands, being on average 10 per cent. lower than in the North and South.

The study has established some of the causes of the wide variations in productivity between individual firms, and the circumstances in which high productivity is achieved have been found.

Summary and Conclusions

The report contains the following summary and conclusions:—

Although there were some contracts of high productivity, the average level of productivity in the contracts studied was low when compared with estimates of pre-war performance published in the Girdwood Report; in addition there were great variations in the labour required on different contracts for the same work. It has been found possible to trace the sources of a part of these variations and to identify the main features of contracts with high and low productivity.

The results show that productivity was high in relation to the average on contracts with incentives schemes, on contracts directly supervised by the main contractor, and where the contractor was experienced in house-building. There was a small but consistent trend of decreasing productivity throughout the period. There were regional differences in the man-hours per house, and it was found that the man-hours per house decreased with increasing size of contract. A major difference in productivity was found between sub-contractors and main contractors employed on work in the same trade.

Underlying these results there are three factors which appear from the survey to be of crucial importance in the achievement of high productivity. These are quality of supervision, incentives and the organisation of the work on the site.

Evidence of the effect of good supervision is provided by the high productivity of the "Working Principal" sub-contractors and of the small main contractors who directly supervised the work on the site. These contractors achieved as good results by close supervision as the larger contractors obtained by such means as target bonus schemes, which brings out the importance of a financial incentive to the supervisor as a means of achieving high productivity.

Incentives to operatives have a special importance in the building industry, particularly at the present time. There was evidence that incentives had effected a reduction in man-hours per house of about 15 per cent. on the contracts on which they were applied. Incentives have their greatest value on large sites on which it is often difficult to give adequate supervision to all the operatives.

The economies that accrue from the efficient organisation of the work on the site are not only in labour cost but also in overhead charges, resulting from a reduction in building time. The results for the trade of bricklayer indicated that substantial savings in labour cost were achieved on large contracts. It would seem that owing to the absence of pre-planning of the work the advantages of the larger production run were lost in the remaining trades.

* National Building Studies, Special Report No. 21. "Productivity in House Building—II," is published for the DSIR by HMSO, price 1s. 9d.

MOW WINTER LECTURES

Programme for November

THE programme of Ministry of Works lectures for November is as follows:—

November 2.—"Bricks and Brickwork," by T. G. W. Boxall, Technical College, Department of Building, Albert-rd., Southampton. 7 p.m.

November 3.—"Old Buildings in Newcastle and Elsewhere," by H. Bruce Allsopp, ARIBA, King's College, Newcastle-upon-Tyne. 7 p.m.

November 3.—"Settlement in Buildings," by S. MacKey, AMICE, AMIStructE, Technical College, 159, Tadcaster-rd., York. 7.15 p.m.

November 3.—"The Advantages of Thermal Insulation of Building Structures," by E. W. Herrington, AMIMechE, AMIHVE, Technical College, Denzil-rd., Willesden, NW10. 7.15 p.m.

November 3.—"Field Maintenance of Builders' Plant," by J. Stafford, Goold Hall, Edinburgh. 7.15 p.m.

November 4.—(As above), 103, Waterloo-st., Glasgow. 7.15 p.m.

November 4.—"Foremanship in Building," by N. McKee, College of Technology, Salmon Pastures, Sheffield. 7.15 p.m.

November 4.—"Surface Finishes of Concrete," by J. G. Wilson, ARIBA, Technical College, Cathedral-st., Lincoln, 7.15 p.m.

November 4.—"Prestressed Concrete," by J. S. Arlett, County Technical College, Stafford. 7.15 p.m.

November 4.—"Floor Finishes," by W. J. Warlow, Hammersmith School of Building, Lime-grove, W12. 7.15 p.m.

November 5.—"Problems of Gypsum and Lime Plastering," by W. H. Ransom, Technical College, Workington. 7 p.m.

November 5.—"Waste Plumbing Fundamentals," by R. T. Gillet, BSc, AMICE, Technical College, Wulfruna-st., Wolverhampton. 7.15 p.m.

November 5.—"Essentials of Good Concreting," by J. R. Lewis, AMIStructE, Technical College, Galashiels. 7.15 p.m.

November 5.—"New Materials and New Methods in Painting," by B. Butler, Technical College, Hempstead-rd., Watford. 7 p.m.

November 6.—"Development Trends in Building Plant," by W. R. Mathews, AMIMechE, Technical College, Roe Green, Hatfield, Herts. 7.30 p.m.

November 10.—(As above), Technical College, Northgate, Darlington. 7 p.m.

November 10.—"Methods of Building in the USA," by W. Ray Turner, BSc, Technical College, Bell-st., Wakefield. 7.15 p.m.

November 10.—"The New Model By-Laws," by R. A. Simons, Municipal College, Anglesea-rd., Portsmouth. 7 p.m.

November 10.—"Structural Use of Reinforced Concrete in Building," by A. E. Hewitt, AMIStructE, Technical College, Manor Croft, Burton-on-Trent. 7.15 p.m.

November 10.—"Foundation Problems," by L. R. Creasy, BSc, AMICE, Brixton School of Building, Ferndale-rd., Brixton, SW4. 7.15 p.m.

November 10.—"Glass—Its Manufacture and Use,"

by N. Alexander, The Guildhall, Swansea. 7 p.m.

November 11.—(As above), Central Cafe, Stepney-st., Llanelly. 7 p.m.

November 11.—" Essentials of Good Concreting," by E. E. H. Bate, CBE, AMICE, Public Library, Abington-st., Northampton. 7.15 p.m.

November 11.—" Field Maintenance of Builders' Plant," by J. Stafford, Technical College, Tonbridge-rd., Maidstone, Kent. 7. p.m.

November 11.—" Site Tests for Good Concrete," by R. P. Andrews, Technical College, New Town-rd., Hereford. 7.15 p.m.

November 11.—" Bricks and Brickwork," by Lockhart W. Hutson, OBE, FRIBA, 22, King-st., Kilmarnock. 7.15 p.m.

November 12.—" Concrete Placing and Formwork," by A. B. Harman, BSc, AMICE, Technical College, Great Horton-rd., Bradford. 7.15 p.m.

November 12.—" Glass—Its Manufacture and Use," by N. Alexander, St. Mary's Church House, Upper Frog-st., Tenby. 7 p.m.

November 12.—Discussion on " The Importance of Technical Education in the Building Industry," Technical College, Sunderland. 7 p.m.

November 12.—" Scottish Building Practice," by D. K. Baron, MA, ARIBA, 60, George-st., Stranraer. 7.15 p.m.

November 16.—" Basic Principles of Site Organisation," by H. E. Hewitt, Crown and Anchor Hotel, Ipswich. 8 p.m.

November 16.—" Concrete Placing and Formwork," by L. J. Murdock, AMICE, Gas Board's Showrooms, Town Hall Extension, Albert-sq., Manchester. 7.15 p.m.

November 17.—(As above), College of Technology, Byrom-st., Liverpool. 7.15 p.m.

November 17.—" Bricks and Brickwork," by T. G. W. Boxall, Medway Technical College, High-st., Chatham. 7 p.m.

November 17.—" Dampness in Buildings," by H. M. Llewellyn, BSc, ARIC, Ascot Hall, Falkirk. 7.15 p.m.

November 17.—" The New Model By-Laws," by R. A. Simons, Ministry of Works Buildings, Ashley-st., Birmingham. 7.15 p.m.

November 17.—" The Thermal Insulation of Buildings," by C. S. Goyder, AMIMechE, Liberal Club, 35, Broad-st., Reading. 7 p.m.

November 17.—" Small Heating and Ventilating Installations," by A. M. Palmer, AMIMechE, Railway Hotel, Staines. 7.45 p.m.

November 17.—" Soil Stabilisation," by S. MacKey, AMICE, AMIStructE, Technical College, Queen-st. South, Huddersfield. 7.15 p.m.

November 18.—Debate on The Employment of Specialists on Building Contracts, North Staffs Technical College, Cauldron-pl., Stoke-on-Trent. 7.15 p.m.

November 18.—" Prestressed Concrete," by J. S. Arlett, Marine and Technical College, South Shields. 7.15 p.m.

November 19.—" Concrete Placing and Formwork," by A. B. Harman, AMICE, Schofield Technical College, Park-rd., Mexborough. 7.15 p.m.

November 19.—" Seasoning and Preservation of Timber," by Bernard W. Eades, Technical College, Chesterfield-rd., Mansfield. 7.15 p.m.

November 19.—" Some Aspects of Building Contracts," by R. W. Porter, Watford Technical College, Hempstead-rd., Watford. 7 p.m.

November 20.—" The Structural Uses of Timber," by an officer from the Timber Development Association, Technical College, Roe Green, Hatfield, Herts. 7.30 p.m.

November 24.—" Problems of Gypsum and Lime Plastering," by W. H. Ransom, Public Library, Corporation-st., Chesterfield. 7.15 p.m.

November 24.—" Essentials of Good Concreting," by E. H. MacMillen, MICE, MIStructE, Technical College, Leigh. 7.15 p.m.

November 24.—" Soil Mechanics in the Building Industry," by M. W. Leonard, AMICE, Oxford & District Gas Undertaking, Therm House, St. Aldates, Oxford. 7.p.m.

November 24.—" Prestressed Concrete," by R. W. Pearson, AMICE, 83/85, Graham-st., Airdrie. 7.15 p.m.

November 24.—" Some Building Methods in the USA," by W. Ray Turner, College of Technology, Howard-st., Rotherham. 7.15 p.m.

November 24.—" Dry Rot," by Bernard W. Eades, Town Hall, Lloyd-st., Llandudno. 7 p.m.

November 25.—(As above), The Free Library, Dolgelley. 7 p.m.

November 25.—" Dry Rot," by W. P. K. Findlay, Dudley and Staffordshire Technical College, The Broadway, Dudley. 7.15 p.m.

November 25.—" Dry Rot," by Marcus Robinson, New Lecture Hall, Robert Gordon's College, Aberdeen. 7.15 p.m.

November 26.—(As above), Burnett's Restaurant, Academy-st., Inverness. 7.15 p.m.

November 26.—" Modern Developments in Concrete," by S. White, AMICE, Technical Institute, Nelson-ter., Stockton-on-Tees. 7 p.m.

November 26.—" The Thermal Insulation of Buildings," by R. R. Houston, Technical Institute, Southway, Bognor Regis. 7 p.m.

November 26.—" Better Building," by P. Cutbush, ARIBA, Conservative Hall, Sankey-st., Warrington. 7.15 p.m.

November 26.—" Seasoning and Preservation of Timber," by Bernard W. Eades, Technical College, Walsall. 7.15 p.m.

November 30.—" Thermoplastic Tiling," by F. L. Brady, Municipal College (Department of Building) Shelley Park, Boscombe. 7 p.m.

NFBTE

President Says New Wage Claim " Difficult to Justify "

SPEAKING at Darlington on October 23, at the annual dinner of the Northern Counties Federation, MR. WILFRED HORSFALL, president of the National Federation of Building Trades Employers, said that the operatives in the building industry had decided to submit a claim for 9d. an hour increase in wages. So little time had elapsed since their last claim for 6d. increase was rejected by the Industrial Disputes Tribunal—and the general situation since then had barely changed—that it was difficult to understand how the operatives could justify the submission of an even higher claim, the more so when it was recalled that their one chance of maintaining full employment in the industry was by helping us to keep the cost of building down.

" Obviously, any increase that may be due under the sliding scale—and this looks like being 1d. per hour—will be taken into account when the National Joint Council for the Building Industry come to deal with the wage claim in January," said Mr. Horsfall. " In the meantime we must hope that employers in other industries who will be dealing with wage claims between now and the end of the year will refrain from decisions which might complicate the issue."

Awards for Apprentices, Craftsmen and Students

IN ACCORDANCE with its policy of encouraging building apprentices and students to pursue—at all stages in their training—their craft and technical studies, both within the requirements of their indentures and beyond, the NFBTE has issued the following particulars of the national awards offered for 1954:—

I. TO CRAFT APPRENTICES AND YOUNG CRAFTSMEN.

(*a*) *Ordinary National Certificate Course in Building.*—A first prize of £25 and certificate and a second prize of £20 and certificate to the two best apprentices or young craftsmen in each of the NFBTE's ten Regions in England and Wales.

(*b*) *Higher National Certificate Course in Building.*—(i) A silver medal, certificate and cash prize of £50 to the best craft apprentice or young craftsman in England and Wales. (ii) A bronze medal, certificate and cash prize of £40 to the second best craft apprentice or young craftsman in England and Wales.

These awards are open (i) to apprentices who are indentured under the National Joint Apprenticeship Scheme for the Building Industry, and (ii) to young craftsmen who have completed an apprenticeship under the National Joint Apprenticeship Scheme for the Building Industry.

Candidates must have obtained an ordinary (for prizes under (a)) or a higher (for prizes under (b)) National Certificate in Building during the school year 1953/4 and must be able to show that they have completed the whole, or a substantial part, of a course leading to the final craft certificate appropriate to their craft.

Candidates who are young craftsmen must have obtained the ordinary or higher National Certificate within a reasonable time after the end of their apprenticeship period, due regard being paid to National Service commitments.

II. TO STUDENTS IN BUILDING OTHER THAN CRAFT APPRENTICES.

(*a*) *Ordinary National Certificate Course in Building.*—A first prize of £25 and certificate and a second prize of £20 and certificate to the two best students in each region.

(*b*) *Higher National Certificate Course in Building.*—(i) A silver medal, certificate and cash prize of £50 to the best student in England and Wales. (ii) A bronze medal, certificate and cash prize of £40 to the second best student in England and Wales.

These awards are open to students who are serving, or who have served, under approved articles of agreement. Candidates must have obtained an ordinary (for prizes under (a)) or a higher (for prizes under (b)) National Certificate in Building during the school year 1953/4. In the case of candidates whose period of service under articles has been completed, the ordinary or higher National Certificate must have been obtained within a reasonable time after the end of such period, due regard being paid to National Service commitments.

GENERAL CONDITIONS

(i) The awards are open to the employees of firms in membership with the NFBTE.

(ii) In the selection of candidates consideration will be given to: (1) Examination results; (2) school reports; (3) industrial experience and aptitude; (4) recommendation of technical college principal; and (5) recommendation of employer.

Candidates may be required to attend for an interview before a Regional and/or National Selection Board.

(iii) Particulars of candidates suitable for consideration for the awards may be submitted by employers and technical colleges to the appropriate regional secretary of the NFBTE. The regional secretary will supply a form for this purpose.

(iv) The decision of the council of the NFBTE regarding the making of any award is final.

INSTITUTE OF QUANTITY SURVEYORS

East Anglian Branch Meeting

AN OPEN MEETING of the East Anglian Branch of the Institute of Quantity Surveyors was held at Peterborough on October 16.

After the chairman, Mr. C. E. Smart, of London, had made his opening address, MR. C. B. BRANCH, of Norwich, gave his lecture on " Estimating and Price Analysis," and expressed his preference for pricing on the basis of an estimated amount of work carried out in a given length of time, rather than on the basis of an estimated length of time being required to carry out a given unit of work.

By the use of the former method, Mr. Branch claimed that adjustments to prices for certain items of work, which vary according to site conditions, position on site and other factors, could more readily be made, and result in greater accuracy and less mental effort on the part of the estimator. In addition it would be found that the figures would more easily be committed to memory, these being nearer to whole numbers rather than to two or three places of decimals.

At the conclusion of his lecture Mr. Branch asked for questions and a lively discussion followed.

A vote of thanks was accorded by MR. T. G. ORANGE, of Peterborough, who said that he hoped Mr. Branch would continue his most interesting talk on some future occasion.

BUILDING IN THE SOVIET UNION

Visiting Architects Report on Their Tour

ACCOUNTS of their recent visit to Russia at the invitation of the Union of Soviet Architects were given by several members of the British visiting team at a meeting of the Society for Cultural Relations with the USSR at 14, Kensington-square, London, on October 21. The speakers were Messrs. F. R. Yerbury, Hon.ARIBA (chairman of the team), C. Penn, ARIBA, C. C. Handisyde, FRIBA, A. D. Jones. ARIBA, B. Lubetkin and C. R. Whittaker. Mr. A. Ling presided.

MR. PENN began by briefly referring to the various places which the team visited during their three weeks' tour. They were Moscow, Stalingrad, Yerivan (Armenia). Kiev, Leningrad and Peterhof. In Moscow, where they stayed a week, they inspected the Kremlin, the University (in company with the chief architect) a six-storey block of flats being erected in load-bearing brickwork, a 16-storey office block of steel-framed construction, two churches (which incorporated air conditioning and intricate mosaic work) and a school of architecture.

In Stalingrad they found no visible signs of bomb damage except at a few places on the outskirts, and at Yerivan they were overwhelmed by the high quality of workmanship, especially in stone carving and metalwork. The team was hospitably received in all the centres which it visited and the Soviet architects welcomed criticism of their work.

Students' Training

MR. JONES, who spoke next, said that the Moscow School of Architecture which they visited was 200 years old and claimed to be the oldest school of its kind in the world. The standard of art achieved by the pupils in the Russian schools was much higher than one found in British schools, but he thought that the Russians put too much emphasis on art work in the six-year courses available to students. In the last year of this course students could make a special study either of planning or of factory design. The general impression he gained of these schools was that the students were well trained for the work which they would be called upon to carry out. Another point he noted was that although five or six Russian students applied for each available place in their schools, a fair proportion of foreigners had been allocated places.

MR. HANDISYDE described visits to some of the building sites. They were all large sites where most of the operatives (60 per cent. of whom were women) were unskilled or semi-skilled. Mechanisation on the sites was much in evidence. On one scheme of flats the Russians were using as many as nine tower cranes mounted on rails encircling the site. The standard of workmanship displayed on these ordinary housing sites was, however, dreadful. And even where the general standard was fair the joinery work was very bad. This surprised him because the Russians had long experience of building in timber.

Referring to the construction systems being used, he said that many of the buildings which they saw were in solid brickwork, sometimes up to a height of 12 storeys. But the Russians now considered this form of building to be out of date and it was being replaced more and more by pre-cast concrete units, some made on the site and some in factories. So far as brickwork was concerned, he said it could not be fairly compared with that done in this country. Russian workers laid bricks very roughly. A team of five would set themselves a target of 4,000 to 5,000 bricks a day. The target was usually exceeded and the team would lay, perhaps, 8,000 a day. Working on a bonus system, an expert team could lay 12,000.

Speed of Building

Finishes, on the whole, were drab and did not stand up well to the weather. Ceramic slabs were used a good deal as a finishing material. In the new flats being erected the interior of the room walls were simply plasterboard papered. He was surprised to find nothing new in flooring materials. The floors were mostly parquet on very thick timber.

It was difficult to get accurate figures of the speed of building, although he had been told that a particular block of eight-storey flats would be completed in six months. In another case 18 months had been quoted as the erection time for a scheme of 600 flats.

MR. WHITTAKER spoke on the planning aspect of the Moscow building project. He said that it had been divided into 13 separate sections with a chief architect in charge of each section. These architects worked independently of one another to ensure the introduction of a variety of styles of architecture. Section No. 3, which the visiting party inspected, covered an area of about 2,500 acres, and the density of the buildings was 300-350 persons to the acre. Most of the buildings rose to 10 or 12 storeys with open spaces behind. Heating was supplied to all the buildings from one central plant. Garages were being provided on the estimate of one car to every 100 people.

Extraordinary Changes

MR. YERBURY said that the visit had been specially interesting to him because he was able to compare present conditions with those he had found when he was last there in 1932. The changes were extraordinary, particularly in Moscow, where most of the old overcrowded dwellings had been cleared away. He did not like the Russian architecture which he saw, but the architects themselves were most friendly. They welcomed criticism of their work, and the ambition of most of them seemed to be to come to Britain.

The speaker said he thought that a closer relationship between the architects in both countries should be encouraged. For one thing, he thought that they could learn some useful lessons from studying our new towns. The new Leningrad, for example, stretches for 25 miles and there was practically no variation in the height of the buildings.

Mr. Yerbury also referred to the lack of industrial design in the USSR. He had searched the Moscow shops in vain to find a suitable article typical of Russian design to bring home.

Volume of Construction

MR. LUBETKIN said that what had impressed him most was the volume of the construction which the Russians were undertaking. Housing development in Moscow, Leningrad and Kiev was proceeding on an amazing scale. In the south-western sector of Moscow alone they were building dwellings at the rate of 21,000 a year. In Stalingrad, 28,000 flats were going up in a year. In this city, which had been under bombardment by the Germans six hours a day for two years, there was now not a scar to be seen.

Some very fine craftsmanship was seen in a reconstructed palace of the baroque style which the team visited.

Experimental Projects

The Russians, he continued, had invested large capital sums to develop new building techniques, and a number of experimental projects were in progress. There were, for example, two factories making building units and each factory was consuming 400,000 tons of concrete a year. The results of these experiments could not yet be properly assessed, mainly because the Russians were still engaged on projects prepared in 1949.

Mr. Lubetkin went on to refer to the limitations of architectural expression imposed by the Russian building system. Although the chief architect in charge of a section of a project was free to vary the elevational treatment of his buildings, the size of all the units were dictated to him, and his job, primarily, was to supervise his part of the scheme. The architects themselves realised this problem and agreed that it was one of the faults of their system.

INSTITUTE OF BUILDING ESTIMATORS

First Annual Meeting

THE INSTITUTE OF BUILDING ESTIMATORS held its first annual general meeting at the South Kensington Hotel, London, on September 26. The meeting was well attended. In the absence of the president, Mr. L. A. Taylor, joint vice-president, took the chair.

In presenting the report of the council for the administrative year 1952/53, MR. TAYLOR outlined briefly the progress made from the date of the incorporation onwards and dealt at some length with all the various aspects of the council's activities, including admission, finance, editorial and publicity, studentship and examinations, contacts with other bodies, including the observations made to the Standing Joint Committee on Standard Method of Measurement, as well as with the future policy of the council. The chairman then spoke on the question of regions which had recently been set up and which the council now desired should become active. A lengthy discussion then ensued on various items arising from the report.

In reply to a suggestion that the institute should consider amalgamation, it was stressed that unlike many other bodies which merely duplicated or, at best, overlapped to a considerable degree each others functions, and for whose existence, therefore, there could be little, if any, real justification, the Institute of Building Estimators was formed to serve a class of persons for whom there was no provision at all. It would, therefore, be impossible for the institute to consider fusion with any other body since this would inevitably detract from its work. In time, it was stated, membership of the institute, the designating letters and the description "Incorporated Building Estimator" would come to be accepted as the professional standard required for employment as an estimator in the industry.

The report of the council was unanimously approved and adopted.

IN PARLIAMENT

Exchequer Subsidies

ON October 20, MR. JOHN HAY asked the Minister of Housing and Local Government if he would state the aggregate amount of Exchequer subsidies for all houses built since 1919, divided in relation to the various Acts of Parliament under which the subsidies were granted.

MR. MACMILLAN said that the aggregate amounts for England and Wales for the years ending with the year 1952-53 were:—

	£
Housing, Town Planning, etc., Act, 1919	187,172,874
Housing (Additional Powers) Act, 1919	9,498,156
Housing, etc., Act, 1923 (and amendments)	49,594,164
Housing (Financial Provisions) Act, 1924	100,333,287
Housing Act, 1930	45,637,602
Housing Act, 1935	966,537
Housing (Financial Provisions) Act, 1938 (and amendments)	8,140,422
Housing (Financial and Miscellaneous Provisions) Act, 1946 (and amendments)	81,863,846
	483,206,888

The figures for the Housing Acts of 1930 and 1935 included figures for the relevant provisions of those Acts as now consolidated in the Housing Act, 1936. Where a statutory authority had been amended or re-enacted it was as a rule impracticable, except at disproportionate labour, to distinguish the amounts paid under the statute as first enacted from those paid subsequently under the statute as amended or re-enacted.

Waiting Lists

On October 20, MR. ARTHUR LEWIS asked the Minister of Housing and Local Government if he was aware of the difficulties being experienced by many persons in need of alternative housing accommodation in getting on to their local council's housing lists, due to the wide variance in the method of awarding points, etc., and whether he would recommend some suitable national scheme of points allocation.

MR. MACMILLAN replied in the negative. He said that his Central Housing Advisory Committee in their "Selection of Tenants" report considered the adoption of a uniform method of selection by all housing authorities to be impracticable. He agreed with them.

Transactions in Land

On October 20, MR. BRAINE asked the Minister of Housing and Local Government whether Circular 41/33, addressed to local authorities, applied to land transactions by new town corporations.

MR. MACMILLAN said the circular was not addressed to development corporations, but the basis of transactions in land between them and private persons was the same as that set out in the circular.

Bombed Areas

On October 20, MR. DUDLEY WILLIAMS asked the Minister of Housing and Local Government if he would state the total amount of capital expenditure that would be permitted for the reconstruction of the bombed area of Exeter for 1954.

MR. MACMILLAN said that final arrangements had not yet been made, but he hoped that in 1954 the progress made in 1952 and 1953 would be continued.

Derelict Land

On October 20, MR. SWINGLER asked the Minister of Housing and Local Government what steps he was taking to encourage local authorities to reclaim derelict land for housing and other purposes.

MR. MACMILLAN said that the reclamation of derelict land was a problem which local authorities had well in mind. As councils were aware, he was always ready to consider reclamation proposals as far as his approval might be necessary and to give all the help he could. He was glad to say that a good deal had been and was being done.

Building Licensing at Hornchurch

On October 20, MR. BING asked the Minister of Housing and Local Government whether, in view of the fact that in the first six months of this year the Hornchurch Urban District Council had only completed 24 houses to let, as compared with 286 built for sale, and that there were over 1,500 families on the Hornchurch waiting lists, he would withdraw from the Hornchurch UDC the powers delegated by him to issue building licences.

MR. MACMILLAN replied in the negative. He said that the council had been properly issuing licences in accordance with the present procedure. Their own progress had been held up by the fact that they could not start on their principal new site till proper sewerage was available.

Mining Subsidence

On October 20, MR. SWINGLER asked the Minister of Housing and Local Government if, in considering the imposition of limits on the house-building programmes of local authorities, he would take special account of the needs of areas affected by mining subsidence and give priority to these areas.

MR. MACMILLAN said he would. He tried to take account of all relevant factors. Meanwhile, progress had been very substantial in the last two years.

TIMBER IMPORTS

Monopolies Commission's Report

IN reply to Mr. William Shepherd, who asked in the House of Commons when the Monopolies Commission's report on imported hardwood and softwood timber and plywood would be published, MR. PETER THORNEYCROFT (President, Board of Trade) said:

The report is published to-day [October 27]. The Commission have found that conditions to which the Monopolies and Restrictive Practices (Inquiry and Control) Act, 1948, apply prevail as respects the supply of the three classes of goods covered by their inquiry, since in each case more than one-third of the total is supplied by importers who so conduct their affairs as to restrict competition.

The Commission explain that, although the trade as a whole is competitive on price, the channels through which most timber is imported into the United Kingdom are regulated by the use of a system of "Approved Lists." There are three such lists, one for European softwood, one for hardwood, and one for plywood. The lists contain the names of UK agents employed by overseas shippers and of UK importers. The agents on each list undertake to negotiate sales of the timber covered by the list only to importers on the list, and the importers on each list to buy such timber only through agents on the list. (In practice, "listed" agents act also only on behalf of shippers who confine all their sales to the United Kingdom to "listed" importers.) A trader who is refused admission to the lists thus has little opportunity to deal in the three main classes of timber except as a non-importing merchant.

Admission to the lists is controlled by joint committees of agents and importers elected by members of affiliated or constituent bodies of the Timber Trade Federation (TTF), but does not in every case depend on membership of these bodies. The joint committees have regard to certain general criteria when considering the addition or deletion of names, but have a wide discretion. Although the arrangements for administering the three lists are not identical in all respects, their common effect is to deny admission to users and to smaller merchants.

The Commission consider that in this trade the services of agents and importers are real and in the majority of cases indispensable. They think that, except in the case of hardwood, the great bulk of imports would probably have passed through the same channels even if the "approved list" system had not existed; nor do they consider that the restriction of competition inherent in the system has raised prices to any substantial extent. The Commission note the existence of some criticism of the way in which the lists are administered, but find no evidence of deliberate partiality in this respect.

In the Commission's view, however, the tendency of the system has been in the direction of increasing rigidity; and as a result the structure of the trade in timber has been forced, and may be forced yet further, towards an inflexible, conventional pattern. This hampers the ability of traders to expand and change the character of their business; the introduction of fresh resources from outside the trade is hindered; and those users who wish to do so cannot adopt methods of purchase which in their view would be more economical.

Other relevant points are:—

(a) The Commission are satisfied that, contrary to the view expressed by the TTF, the price level of imported timber would not be enhanced by the competition of merchants and users for supplies from abroad. Freer competition would be a healthy stimulus to agents and importers and would in the long run make for lower prices to the ultimate consumer.

(b) As the TTF's claim that the "approved list" system provides a necessary minimum of stability as a protection for importers against the risks inherent in the provision of stockholding and other services, the Commission find no evidence to show that timber importers are in a different or more vulnerable position than importers and wholesalers of other commodities sold on world markets. They note that many non-importing timber merchants perform similar services and run similar risks without protection.

(c) No evidence was adduced to show that the protection which the system affords to agents is necessary; and since unsuitable agents are likely to be kept out by the working of competition, it is not needed as a safeguard for purchasers.

COMMISSION'S CONCLUSIONS

In the light of these considerations, the Commission conclude that the agreements and undertakings by traders to deal only with each other on which the system rests are contrary to the public interest; they accordingly recommend that these should be abrogated and not replaced by any other arrangements or undertakings having similar effects.

Although the Commission find no

evidence of any price-ring on a national scale, they note that local associations in four areas operate lists of "suggested" prices. Since the present tendency in the trade appears to be against using such lists, and since their significance is likely to be reduced if the "approved list" system is abolished, the Commission do not find it necessary to record any finding on this subject. They add, however, that if such price-lists were introduced in other areas, or if the present lists came to be supported by binding agreements or sanctions, the whole matter should be re-examined.

[Price 4s. 6d., the Report is issued by HM Stationery Office.]

LMBA

Eric Garrett Memorial Fund Prize Presentation

THE first annual prizegiving of the Eric Garrett Memorial Fund—set up by Central Area No. 5 of the London Master Builders' Association—was held on Tuesday at Putney when Mr. Gerald Hill (President LMBA) presented prizes to apprentices and students. The area chairman, Mr. Arthur B. Frost, presided.

MR. HILL said he was glad to note that the awards were for the most worthy students in the area. "Worthy" was a particularly happy description for it meant that the prizes went not necessarily to the most brilliant students, but to those who had made the best progress in their crafts. He hoped the winners would go from strength to strength and go for the City and Guilds and National certificates; these were a stepping stone to progress in the industry.

MR. D. A. G. REID (head of the LCC Brixton School) said it was particularly appropriate that the name of Eric Garrett should be commemorated in this way. As vice-chairman of the Brixton School he had given invaluable guidance. Mr. Hill had also helped very greatly in developing the work of the school in post-war years, and it was a tribute to the patient interest he took in his own apprentices that they did so well at the School. "This fund," said Mr. Reid, "has established a whole lot of personal relationships—between employer, apprentice and school—which are quite invaluable, and Central Area No. 5 is to be congratulated on the work it is doing to build up this relationship."

MR. DUDLEY COX (past-president LMBA) said that the prize awards derived their main impetus from the volatile and fertile brain of Mr. D. E. Woodbine Parish who had done so much for apprenticeship. He was delighted that the late Eric Garrett's name was to be perpetuated by being attached to the prize awards, as he was also glad to see Mr. McNamara (of the NFBTO) there that day. The operatives had given much assistance to the employers in working out the scheme to the benefit of the apprentices.

Prizewinners were:

Brickwork: J. B. Tanner—Brixton School of Building, employer, F. & H. F. Higgs, Ltd.; Carpentry and Joinery: R. D. Brown—Wandsworth Technical School, employer, Triggs & Co., Ltd.; D. E. Diggins—Brixton School of Building, employer, James Carmichael (Contractors), Ltd.; Plastering: R. E. Hale—Brixton School of Building, employer, Thomas & Co. (Plasterers), Ltd.; Plumbing: D. F. Sibson—Brixton School of Building, employer, Higgs & Hill, Ltd.; Tiling: C. J. Gathercole—Brixton School of Building, employer, Carter & Co., London, Ltd.

National Certificates: L. A. Cole—Brixton School of Building, employer, Bunting Construction Co., Ltd.; N. D. Durrand—Brixton School of Building, employer, Courtney & Fairbairn, Ltd.; D. W. Leggett—Brixton School of Building, employer, N. B. Bell & Co., Ltd.; and R. A. Miles—Brixton School of Building, employer, Higgs & Hill, Ltd.

TOWN PLANNING DECISIONS

Two Appeals Allowed by Minister

AN appeal by Mr. H. Hill against the refusal of the local planning authority to allow him to continue to use a sign with the words "We Sell Tyres" upon it outside his garage at Wickham-road, Fareham, has been allowed by the Minister of Housing and Local Government. The Minister feels that in spite of the fairly open character of the locality the display of this non-illuminated sign is not so prejudicial to amenity as to justify dismissal of the appeal.

The Minister has also conditionally allowed the appeal of Mr. W. H. Barron against the refusal of the planning authority to allow him to use the ground-floor of his premises at East-street, Portchester, as an estate agent's office. Consent had been refused on the grounds that the site was not allocated for business purposes and that the change of use would impair the traffic value of the main road.

The Minister agrees that the establishment of the appellant's business in the premises in question would be undesirable, but he has had regard to the hardship which would be caused to Mr. Barron if the appeal were dismissed outright and he has therefore decided to allow him to continue the use of the premises as an office for the next five years.

Minister Grants Limited Consent for Use of Land as Caravan Site

THE MINISTER OF HOUSING AND LOCAL GOVERNMENT has given permission for a site in Church-lane, Whitstable, to be used for a limited period as a camping site for twelve caravans. The Whitstable UDC had refused the application of Mr. W. C. Elton to be allowed to use the land for this purpose.

In the course of his decision the Minister says he sees no reason to disagree with the Council that the best use of the site would be for a house or bungalow. But he has decided that as the site is on the outskirts of a proposed residential area and there is nothing to suggest that development to the north for residential purposes is imminent, he considers it would be reasonable to allow caravans on the site for a limited period.

He has therefore decided to grant permission for not more than twelve caravans, but only during the period from March to October of each year; permission to end in 1958; no railway vehicle, tramcar, omnibus body, aeroplane fuselage or similar structure, however adapted, to be allowed; all caravans to be removed or stored on a part of the site, the size and position of which shall be agreed with the Council, before October 31 of each year; the site to be kept free of all litter and refuse; no caravan to be nearer the roadway than the front wall of the appellant's bungalow.

Minister Allows Reinstatement of Coventry Factory

AN APPEAL by Singer Motors, Ltd., arising from the refusal of the Coventry City Council to allow the reinstatement of machine shops, laboratory, pattern shop, canteen, etc., at Paynes-lane, Coventry, has been considered by the Minister of Housing and Local Government.

The appellants, states the Minister, submitted that their Paynes-lane factory was one of their three main factories in Coventry. It was damaged by enemy action in 1940 and only the foundry block was at present being put to the use for which it was designed. The factory formed an integral part of the company's operations in Coventry and they maintained that their inability to make proper use of the greater part of it was wasteful and detrimental to the present conduct and future planning of their business.

The Council's refusal was based on their proposal that the company's land at Paynes-lane should be included in a residential zone in the development plan and they said the factory was inherently unsuitable for retention in such an area. They would like the whole of the Singer works in Coventry to be moved, for example, to a site in the Stonebridge Highway industrial area. Alternatively, as a compromise, they had suggested the removal of the Paynes-lane factory to a site in the Raglan-street area. The appellants, however, objected because of the dislocation or suspension of production that would arise and the impossibility of providing the necessary finance on a basis acceptable to them.

The Minister states that he fully appreciates the complexity of the City Council's problem in considering this matter against the background of their proposals for the redevelopment of Coventry. He has, however, come to the conclusion that the practical difficulty of moving this particular factory to a different place is so great that its reinstatement must be permitted. He accordingly allows the appeal subject to the condition that the siting, design and external appearance of the buildings shall be as may be agreed between the Council and the company or, failing agreement, as shall be decided by the Minister.

Croydon School Site: Minister Refuses to Allow Construction of Flats

BECAUSE the site is reserved in the Croydon development plan for a new primary school, the Croydon Borough Council refused to allow Mr. L. N. Vaughan to build a number of flats on land in Warrington-road, Croydon. Mr. Vaughan thereupon appealed to the Minister of Housing and Local Government, and was supported by numerous local residents who object to the proposed school.

The Minister, however, has dismissed the appeal. The enlargement and improvement of existing schools is, he states, an important duty of planning authorities and, wherever possible, schools should be sited centrally within the area from which the children will be drawn. The Minister understands that the school is not in the first five years of the school building programme and that there is no intention of disturbing the existing houses in the meantime. He notes, also, that the Council believe it will be possible to site the school buildings in such a way as to preserve the existing houses as long as possible and that the eventual lay-out will cause no nuisance or disturbance to houses on adjoining land.

Lancing Caravan Site to Remain Open All the Year Round

AS THE RESULT of a decision by the Minister of Housing and Local Government, caravan dwellers on the Broadway caravan park, East Lancing, can live in their homes there all the year round. The Minister's decision arose from an appeal by Mr. W. H. Johnson, the owner of the park, against a licensing condition imposed by the Worthing RDC, that the caravan park should be opened only from March 1 to October 31 of each year.

The Minister states that he agrees with

a Council condition which terminates the use of the park in December, 1957, and he has dismissed Mr. Johnson's appeal against the Council's refusal to allow the park to be increased to twice its present size.

In allowing the appeal against the Council's restriction to summer caravans only, the Minister states that the total number of caravans on the site must not exceed 68, the number for which the site is now licensed, and that no railway vehicle, bus body, tramcar, aeroplane fuselage or similar structure should be stationed there.

Minister Allows Sale of Cars on Bromsgrove Site

AN APPEAL by Mr. G. Povey against the refusal of the Bromsgrove UDC, acting on behalf of the Worcestershire CC, to allow him to use land fronting High-street, Bromsgrove, for the display and sale of motor cars has been conditionally allowed by the Minister of Housing and Local Government.

In giving his decision, the Minister notes that the appellant, who conducts motor auctions elsewhere, wants to rent the appeal site and use it for the display and sale of secondhand cars, but has no intention of using it for auctions or for repairs. He proposes to fence the front part of the land and make it into a forecourt or perhaps an ornamental garden. He asks for pedestrian access to the High-street and is content with the existing vehicular access to Chapel-street, which he is willing to improve by widening. He is prepared to accept a temporary permission pending redevelopment.

The Council's main objection to the proposal is based on traffic grounds. Ultimately, they want to redevelop the area for shopping and business purposes but they admitted that redevelopment was not contemplated in the very near future.

The Minister says he agrees with the Council that the appellant's proposal does not constitute a suitable permanent use for the land but he has come to the conclusion that it might be allowed pending redevelopment, subject to suitable safeguards, including the widening of the Chapel-street access to the maximum possible. He accordingly allows the appeal subject to the following conditions: (1) that no vehicle shall be placed within 30 feet of the High-street frontage; (2) that the details of the accesses shall be as may be agreed between the local planning authority and the appellant; (3) that no auction sales shall be conducted on the land; and (4) that the use shall be discontinued at the expiration of five years from the date of this permission.

HOUSES PAST REPAIR

Results of Housing and Town Planning Council's Survey

THE National Housing and Town Planning Council's survey of housing conditions, initiated last June, has shown that in England and Wales there are probably a million houses which ought to be written off as unfit for habitation, because they cannot be restored at a reasonable cost. They are all the cottage type of privately owned property, and about half are in rural areas.

Speaking in London on October 22, MR. A. R. KERRELL-VAUGHAN, general secretary of the council, said that there were slums everywhere, and they would spread even more if, after 14 years of neglect, matters were not improved.

For the survey the council wrote to 1,468 housing authorities in England and Wales and received replies from 616, but only 530 were able to supply the desired information. Of these, 51 were county boroughs, 114 municipal boroughs, 183 urban districts, and 182 rural districts, representing an aggregate population of 19,732,314, and with 5,553,477 houses in their areas. These authorities together estimated that there were 435,045 unfit houses which could not be made fit at a reasonable expense, but that 688,871 substandard houses could be reconditioned at a reasonable cost. There were 13,699 houses included in slum clearance schemes now in progress, and it was estimated that 60,646 houses would be affected by schemes to be started in the next five years.

According to the 1951 census, there are more than 11,900,000 separate dwellings in England and Wales, and, with roughly half this number covered by the survey, it is thought that the estimated numbers of unfit and sub-standard houses quoted above may be doubled to give an approximate total. Five of the largest cities in England and Wales were not included in the return, and little of London.

Needs of Slum Clearance

Mr. Kerrell-Vaughan said the council believed that most people affected would gladly pay more rent for better housing. The council felt that it would not be unreasonable to set aside 100,000 houses for slum clearance. If the deterioration of small house property was not stopped now it would reach unmanageable proportions.

Although Mr. Macmillan had stated at the Conservative Party conference that the Government now had more "elbow room" to meet such difficulties, a more positive statement of policy was called for in the light of the "deplorable conditions revealed by our survey."

SCHOOL BUILDING IN KENT

Accelerated Programme

REVISIONS in Kent's school building programmes may mean that a start will be made on the erection of some urgently needed new schools and extensions to premises earlier than had been expected.

The Ministry of Education has now suggested that some projects in the 1954-55 programme, which have plans sufficiently advanced, might be started in the programme year 1953-54 and that they should be replaced by other projects to a total value of about £100,000. In addition, the Ministry offered to consider proposals for smaller projects for addition to the 1954-55 programme to the value of about £30,000.

Alterations proposed by the Kent Education Committee are: Transfers to the 1953-54 programme:— Rochester. Delce county primary school (erection of hall); Northfleet, Sheers Green, proposed county primary school (completion of building); Crayford, Slade Green (erection of proposed county primary school).

Additions to the 1954-55 programme:— Folkestone, Biggins Wood (erection of proposed temporary county primary school); Ramsgate, Clarendon House grammar school (science laboratories); Rochester, Mathematical School (instalment of new buildings), and Tunbridge Wells, Ramslye county primary school (two additional classrooms).

The Ministry have also agreed to the building of a complete "nine-class" school at Ramsden, Orpington, in the 1953-54 programme instead of an instalment of six classes in 1953-54 and another three classes in a later programme.

It is hoped that another primary school project may be agreed shortly.

BUILDING RESEARCH

Progress Made in 1952

"BUILDING RESEARCH 1952," a publication which describes the work of the Building Research Station on problems ranging from the prevention of dry rot to the heating and lighting of schools, has been issued by HM Stationery Office, price 3s. 6d.

The Building Research Board in their report discuss the way in which the programme has had to be adjusted to meet the reduced resources available and they record their view that a reduction in research effort obstructs rather than helps national economy.

Among the most striking results reported are those of the large-scale building experiment at Norwich, where the construction of 32 houses was planned around the use of a rail-mounted mobile tower crane. The man-hours expended in the work up to the roofed-in stage (700 man hours) averaged little more than half the usual figure, with an estimated saving of about £50 per house for this part of the work. The careful programming of the work on the interiors of the houses as well as the exteriors has led to additional reductions in man-hours, and in a recent paper the total savings are estimated at £100 per house, compared with the national average. The report mentions three factors as having been responsible for the success of the trial, *viz.*, the employment of the tower crane, the detailed planning of production, and the concentration of labour.

In collaboration with the British Electricity Authority the use of pulverised fuel ash (the waste product from power stations fired with pulverised fuel) in the manufacture of bricks is being developed. Very promising results have been obtained and full-scale trials made at several brickworks. Disposal of this waste ash is of increasing importance, and the brick industry is one of the few capable of using large quantities.

Prestressed Concrete

Work on prestressed concrete included the investigation of impact resistance, the examination of production problems and, in collaboration with the Fire Research Organisation, the testing of the fire resistance of various types of prestressed concrete beams.

The Station has done considerable development work on the use of short-bored pile foundations for houses and light buildings. This type of foundation is particularly suited to districts where there are shrinkable clay subsoils and in which houses built on traditional strip foundations can suffer much damage as a result of shrinkage of the clay in dry weather. Short-bored piles can be speedily constructed. A power auger drills a hole and concrete is poured in at once to form a pile. In this way single piles can be made in a few minutes; the complete foundations for a group of four terrace houses have been finished in two eight-hour days. Even when hand augers are used the foundation for a single house can be completed in two and half days.

Large and small firms of builders are using the short-bored pile method in increasing numbers.

An idea of the extent of the day-to-day advisory work of the Building Research Station, as distinct from its research programme, is given by the figures quoted for inquiries—over 10,000 technical inquiries during the year, and a further 10,000 requests for sources of information or copies of publications.

NEWS IN BRIEF

Chairman's Death

Mr. William Robert Rawlings, AMIEE, chairman and managing director of Rawlings Bros., Ltd., died at his home, Melrose, Home Park-road, Wimbledon, recently. He was 90 years old. Mr. Rawlings was the first president of the Electrical Contractors' Association.

Spanish Architecture

Owing to transport delay, the Building Centre, Store-street, Tottenham Court-road, WC1, found it impossible to open the Exhibition of Contemporary Spanish Architecture on October 26. The new opening date will be issued as soon as this can be arranged.

New Trade Association

The formation is announced of the Association of Vermiculite Exfoliators. The association aims at establishing and maintaining recognised standards of quality for processed vermiculite and codes of practice for all commercial applications. It will encourage and carry out research into the use of vermiculite. The address of the association is: Plantation House, London, EC3 (Tel.: Mansion House 9345).

High Paddington

A number of leading firms in the building industry have formed a committee to examine the technical problems of high building in the UK. They have taken as the basis for their examination the High Paddington scheme, prepared by Mr. Sergei Kadleigh, ARIBA. Mr. R. A. Allan, DSO, OBE, MP for Paddington South, has accepted the chairmanship of this committee.

New Schools in Middlesex

The beginning of the autumn term 1953 saw the opening of the hundredth school department completed and occupied in Middlesex since 1946. Places have been provided for over 41,000 school children. Twenty secondary schools are included in the total. This event was celebrated on October 27 at the County School for Boys, Gayton-road, Harrow, when Lord Piercy was the chief speaker. Mr. C. G. Stillman, FRIBA, is the Middlesex County Architect.

Southern Counties Golf

The Southern Counties Federation Golfing Society's autumn meeting was held at Pulborough on October 7. In the morning, the singles, Stableford bogey, was won by C. A. F. Ross with 34 points. This was decided on the second nine holes, the runner-up being H. Cooper with 34 points. In the afternoon, the greensome foursomes were won by S. J. Wynn and H. Cooper with 38 points, the runners-up being A. E. Stanley and G. Becquet, with 35 points.

"Design into Craftsmanship"

A short evening course entitled "Design into Craftsmanship" is to be given by Mr. Robert Elliott, AIOB, at the Hammersmith School of Building and Arts and Crafts, Lime-grove, Shepherd's Bush, W12. The first of six two-hour lecture-demonstrations will begin at 7 p.m. on Tuesday, November 10. These lectures will show the interdependence of designer and craftsman in the main building trades, and will cover both manual and machine techniques. Architects and others interested in this important but somewhat neglected subject are invited to get in touch with the school (Tel.: Shepherd's Bush 3321-3). The fee for the course is £1.

HOUSES BUILT IN ELEVEN WEEKS

Exmouth Firm's Achievement

THE South-Western Federation of Building Trades Employers has sent us the following account of a notable example of productivity by an Exmouth firm of builders.

In the short space of 11 weeks, what were fields is now a residential neighbourhood. This achievement is all the more worthy when it is realised that the site upon which the houses were built is truly rural and isolated with no local labour available.

Messrs. F. W. Davey, Ltd., of Exmouth, carried out the work at Clyst Hydon, in the St. Thomas Rural District Council's area. The architects were Messrs. Lucas, Roberts and Brown, of Exeter.

The houses built were of the Cornish Unit type, and work began on the site on June 22. The isolated nature of the site made it necessary for the contractor to convey all the men daily from Exmouth, a distance of 21 miles. The houses concerned comprised two pairs and two blocks of four houses of three bedrooms each, and in addition to the erection of the houses, all the necessary drainage, fencing and paths were completed in this period of 11 weeks.

The job was well programmed, and all units were erected by July 8, ready for the tiling of the roofs. All roofs were tiled by August 5, and all plastering completed on August 22. The painting and external works were all completed and the houses ready for handing over for occupation on September 8. This represents a total of 61¼ working days, and even during this period there came the annual holiday week for the operatives in the employ of Messrs. Davey.

This speedy completion, which it is thought must be something of a record, was achieved by the co-operation of the local authority and the architects, together with the sub-contractors' work. The sub-contractors were the Exmouth Plumbing Co., who undertook the plumbing; the roofing was carried out by the Marley Tile Co.; plastering was by A. C. V. Telling (Devon), Ltd.; and the flooring by the Exeter Asphalt Co.

The average number of operatives employed on this contract was 27, and all concerned, the Federation states, have a right to feel proud of the way in which this contract was carried out, to enable yet more and more families to be housed.

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(*Continued from page 659.*)

and Tubewrights, Ltd., Newport, Mon; *plumbing units, etc.:* B. Finch and Co., Ltd., Barkingside; Econa Modern Products, Ltd., Birmingham, 11; and Bonfield and Hooke, Ltd., Northampton.

Roof tiles: Colthurst, Symons and Co., Ltd., Bridgwater; S. and E. Collier, Reading; Wilkins and Bedford, Northampton; Wormells, Ltd., Northampton; and Broughton Astley Tileries, Ltd., Broughton Astley; *pavement lights, etc.:* Lenscrete, Ltd.; *door furniture:* Lockerbie and Wilkinson (Birmingham), Ltd., Tipton; and Dryad Metal Works, Ltd., Leicester; *paints:* British Paints, Ltd., Newcastle-on-Tyne; Charles Turner and Son, Ltd.; Walpamur Co., Ltd., Darwen; and Vitretex (England), Ltd.; *glazed cement wall finishes:* Robbs Cement Enamel Finishes, Ltd., Dagenham; *cast-iron goods:* The Lion Foundry Co., Ltd., Kirkintillock; and Burn Bros. (London), Ltd.; *concrete gutters:* Finlock Gutters, Ltd., Tunbridge Wells; *fires and domestic hot water:* Ideal Boilers and Radiators, Ltd., Hull (Neo-fire); Allied Iron Founders, Ltd.; and The Coalbrookdale Co., Ltd., Willington, Salop; *soundproofing to flats:* Fibreglass, Ltd., St. Helen's; *electrical ducts to flats:* Ductube, Ltd.; *heating services:* Ashwell and Nesbit, Ltd., Leicester; Seaton and Peet, Ltd., Northampton; and Bonfield and Hooke, Ltd., Northampton; *heating fittings:* Gulf Radiator Co., Ltd., Cardiff; Copperad, Ltd., Colnbrook; and Lumby's, Ltd.; *lighting fittings:* Holophane, Ltd.; and Ascog, Ltd.; *plastering, fibrous plaster:* T. W. Tomalin, Ltd., Northampton; *ceilings (fibre board):* Tentest, Ltd., Hadley Wood; *storage tank:* Braithwaite and Co., Ltd., Great Bookham.

Tar paving: Davis, Watson and Elliotts, Aldershot; *curtains:* Northampton Co-operative Society, Ltd.; *wall tiles:* Carter and Co., Ltd.; *sculpture:* (King's Heath Infants' School) Robert Adams, of Putney, SW15; *commemoration tablet:* The Hopton-Wood Stone Firms, Ltd., Matlock; (sculptor, D. A. Seaman, of Northampton); *woodwool:* Thermacoust, Ltd.; *reconstructed stonework:* Constone, Ltd., Leicester; The Croft Granite Brick and Concrete Co., Ltd., near Leicester; and Trent Concrete, Ltd., Colwick, near Nottingham; *joinery:* Sharp Bros. and Knight, Ltd., Burton-on-Trent; and The Midland Joinery Works, Ltd., Burton-on-Trent; *w.c. cubicles:* Messrs. Flexo Plywood Industries, South Chingford; *cloakroom equipment:* Cloakroom Equipment, Ltd., Bromsgrove; *hat and coat pegs:* Comyn Ching and Co., Ltd.; *glass domes and glass bricks:* Pilkington Bros., Ltd., St. Helens; *glass:* Daylers; Northampton; *window control gear:* Arens Controls, Ltd., East Croydon; *stair nosings:* Ferodo, Ltd., Chapel-en-le-Frith; *roller shutters:* Brady Shutters Co., Ltd., Ancoats; *acoustic tiles:* Celotex, Ltd.; *clocks:* Gents and Co., Ltd., Leicester; and English Clock Systems, Ltd.; *fencing:* Penfold Fencing and Engineering, Ltd., Watford; *sliding door gear:* P. C. Henderson, Ltd., Barking; *roads and sewers:* The Borough Engineer's Dept., Northampton; and *horticultural works:* Borough Estates Department.

TRADE NEWS

Paint Products

Wareing Brothers and Co., Ltd., Carlton-street Works, Bolton, Lancs, have issued a pamphlet which outlines the range of paints manufactured by them, and shows in a clear manner the different applications and qualities claimed for these products.

Air Forces Memorial

In connection with the illustrated article on the Air Forces Memorial, Cooper's Hill, near Runnymede, Surrey, which appeared in our issue of October 16, we have been asked to state that the cast stonework to the two spiral staircases in the tower were supplied by Kendell's Stone and Paving Co., Ltd., of Croydon.

Steel Shelving

As a development from their production of metal partitioning, Rowe Bros., and Co., Ltd., are now manufacturing adjustable steel shelving. The principle underlying the design is the provision of angle uprights and shelves to which may be added sheet backs and sides, bin fronts, card holders, dividers, drawers and doors to form a large variety of fittings. Each unit or bay is complete and may be disconnected from another without removing the shelves. The shelving is stove-enamelled in two alternative colours, olive green and grey. A leaflet illustrating and describing the components, and typical combination units, may be obtained from any branch of Rowe Bros., and Co., Ltd., 10, Dover-street, W1.

Opaque Glass

Supplies of a new "Vitrolite" specification are now available for architects and the trade. The book covers a variety of applications of "Vitrolite," including five bathrooms, three kitchens and a range of nine business premises schemes. The booklet is prefaced by an introduction which includes references to thicknesses, sizes and colours, and the manufacturer's fixing recommendations are also given. Copies of each section are available if required, upon application to Pilkington Brothers, Ltd., St. Helens.

OFFICIAL NOTIFICATION

Selling Price and Rental of Houses Built Under Licence

THE Ministry of Housing and Local Government have issued a circular (No. 60/53 dated October 20) to local authorities on the selling price and rental of houses built or converted under licence in accordance with Section 7, Building Materials and Housing Act, 1945 (as amended by Section 43 (1) Housing Act, 1949).

The circular states that from the date of its receipt, licences authorising the construction of new houses or the conversion of existing premises into dwellings should be issued without any condition restricting the figure at which they may be sold or let. From December 20, 1953, conditions as to price and rental imposed in licences already issued and Land Charges created in accordance with Section 8 of the Act of 1945 will cease to be enforceable and entries in the Land Charges Register should accordingly be cancelled as provided in the rules.

This does not mean that any premises affected, if subject to the Rent Restriction Acts, will cease to be subject thereto. Arrangements for the sale of council houses remain unchanged.

ILO

Session in Geneva

THE fourth session of the Building, Civil Engineering and Public Works Committee of the International Labour Organisation opened in Geneva on October 26, and dealt with the following agenda:—

1. General Report, dealing particularly with—

(a) Action taken in the various countries in the light of the conclusions of previous sessions of the Committee;

(b) Steps taken by the Office to follow up the studies and inquiries proposed by the Committee;

(c) Recent events and developments in the construction industry.

2. Methods of facilitating the progressive application in the construction industry of the principle of a guaranteed wage, including methods of eliminating temporary stoppages or fluctuations in plant operations and in employment.

3. Factors affecting productivity in the construction industry. The Committee is tripartite in character and the delegation from each country taking part may include two Government representatives and two representatives of each of the Employers' and Workers' groups. The representatives may be accompanied by advisers. The United Kingdom will be represented at the meeting by the following delegation—

Government representatives: M. W. Bennitt, Under Secretary, Ministry of Works; and J. R. Lloyd Davies, CMG, Assistant Secretary, Ministry of Labour and National Service. *Employers' representatives*: R. Kean, OBE, Director, Federation of Civil Engineering Contractors; and N. Longley, Past President, National Federation of Building Trades Employers. *Workers' representatives*: Sir Richard Coppock, CBE, Gen. Sec., National Federation of Building Trades Operatives; Jack Armstrong, OBE, Nat. Sec., Building Trade Group, Transport and General Workers' Union.

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OVERSEAS BUILDING

[From Our Own Correspondents]

Belgian Congo. — The US firm, The Pacific Iron and Steel Co. of Los Angeles has established a subsidiary company in the Belgian Congo under the name of Congacier. A factory is to be built at Limete, near the capital Leopoldville. The factory, which, it is claimed will be the most modern and best equipped of its kind in the Congo, will produce structural steelwork for industrial buildings, an indication itself that much building work is foreseen for this territory. Plant is also to be erected at Mavuma, near Boma, in the Bas-Congo, for the excavation of bituminous sand and the extraction of its asphalt content. It is estimated that the plant will produce 10,000 tons of asphalt annually.

Work was started on the construction of a new aerodrome at Elisabethville during July. The initial stage is the laying of a runway 2,400 metres long by 50 metres wide. The plan provides for the eventual extension of this runway and the laying of a second parallel to the first. It is also hoped that by the beginning of next year the extension of the runway at Bukava will be under way. The extension will lengthen the present 1,100 metre runway to 1,820 metres.

As far as housing is concerned it is interesting to note the permanent growth of native settlement at Leopoldville. The activities of Fonds d'avance, a credit fund for the purpose of granting loans to natives, has been increased. Cost of a house is about 1,800 francs per square metre. This year about 800 loans averaging 100,000 francs, will have been made, repayable over 15 years.

Four-apartment houses are being built to house 150 government officials. Five apartment houses each containing 28 apartments have already been built.

A new textile factory is being built at Elisabethville for the firm Solbema. It is hoped to have it in operation by the end of next year.

British East Africa.—Dams are to be built and facilities made for underground water testing in readiness for a big water development scheme in Uganda. Expenditure on waterworks to date is £300,000 and these are to be extended.

Building is also going on at Radio Kampala which went on the air temporarily for the Coronation. The main buildings are going up on Bugolobi Hill, three miles to the east of Kampala. In Kampala itself the new Telephone House erected at a cost of £180,000 is nearing completion. The new exchange will initially make provision for 2,600 lines.

In the neighbouring Protectorate of Kenya, great importance is being shown of the need for housing for the native population. To stress the importance, the Deputy Governor of Kenya, Sir Frederick Crawford, has been appointed chairman of the Central Housing Board. Sir Frederick has already given some idea of the housing plans, said to be the biggest housing programme in the history of the country. In Mombasa the Municipal Board has purchased an estate at Changamwe which will eventually house 15,000 people. Cost of the scheme will be around £2m. and this will be obtained from Colonial Development Corporation. Plans for easing the housing situation in Nairobi are progressing favourably and much thought is being given to the most suitable types of building for the housing of

Africans. Hostels are to be erected to accommodate 200 people each and these will be used mostly by Africans travelling through the City. This excludes accommodation provided by Government Departments and private employers. The town of Nakuru has approved a £250,000 housing scheme to provide by the end of 1954 a number of flats and two-roomed homes for natives. The foundation was also laid recently for another £250,000 housing scheme for workers at the Magadi Soda Co. This is being built in conjunction with a £300,000 pipe line and water supply scheme which is in course of construction near the Mau escarpment.

The Lime and Cement Factory (E.A.), Ltd., is building a new plant in Nairobi's heavy industrial area. When in production the new works are expected to have an output of between 400 and 500 tons of lime a month.

Excavation work has started on the site of the new airport at Embakasi near Nairobi. This work is expected to take at least 15 months and will cost about £40,000. The Department concerned is the Kenya Public Works Department, whose address is Box 662, Nairobi, Kenya. A further £120,000 is yet to be spent on other plant for this project.

Peru.—It has been announced in the Press of Peru that a new company, known as Helios S.A. of Avenida Abancay 349, Lima, Peru, has been formed with the object of building an oil refinery at the port of Callao. The Socony-Vacuum Oil Development Co. of Peru, a subsidiary of the company of the same name at 26, Broadway, New York, has filed applications for exploration rights on 20 concessions in the eastern part of Peru.

Other companies who have filed concessions are: Seaoil, Ltd.; The Richmond Oil Co.; Peruvian Oil Concessions Co., Inc.; and The Peruvian Pacific Petroleum Co. Information about the last named can be obtained from Senor Carlos del Solar, Edificio Nazarenas, Huancavelica 470, Lima. Another oil man who should be approached is Dr. Carlos Neuhaus Rizo Patron, Abancay 349, Lima, Peru.

The town of Chincha, which is about 220 kilometres south of Lima, is to have a new power plant. Inquiries should be addressed to the Compania de Servicios Electricos, Ocona 160, Lima. Plans for the extension and improvement of the port of Salaverry were approved recently. Authorisation has now been given to the Ministry of Finance and Commerce to issue calls for tender.

The Marcona Mining Co. of Peru, subsidiary of the Utah Construction Co. and the Cyrpus Mines Corporation of the United States, has received a loan of $2½m. from the Export Import Bank to enable it to complete its installations.

A small luxury hotel to accommodate about 100 guests is to be built in Lima by private interests. The hotel is to be called "Hotel Ambassador," and it is estimated that it will be completed by 1955. Building is expected to start in January. Inquiries can be addressed to Senor Ingeniero Raul Mulanovich, Huancavelica 470-507, Lima, Peru.

Norway.—A new airfield is being built at Bodö in the north of Norway. Although the airfield was opened for civil and military traffic last year, the task will not be completed until the end of 1955. About 1,000 men are employed in the job. Cost of the work is estimated at £5m. Other airfields are also being developed at Andöya and Bardufoss.

FACTORY-MADE BUILDINGS

Dollar Trade Prospects in Canada

THE Arcon Group mission which has been investigating the possibilities of the Canadian market for factory-made buildings returned to London on October 16.

Members of the mission—Mr. W. F. Lutyens, chairman of the Arcon Group; Mr. A. M. Gear, consultant designer; and Mr. J. L. Lishman, technical executive of Taylor Woodrow (Building Exports), Ltd.—said the purpose of the visit had been achieved. A thorough investigation had been made on the possibilities and requirements of structures for industrial, agricultural and amenity purposes, including schools and houses.

The information obtained, together with information on geographical and climatic requirements and local preferences, would now be studied. Until members of the Arcon Group had had time to consider the mission's report, no policy statement could be made.

It was felt, however, that there were opportunities for British manufacturers to serve all sections of the Canadian market for all the types of buildings investigated. Structures for industrial purposes appeared to be the most straightforward and were, therefore, likely to be a priority task.

The needs for amenity buildings, especially schools, were great. Much help could be given by the Canadians themselves if they could achieve a greater measure of standard planning and bulk buying, developments which had produced beneficial results both in speed and cost of building in England and elsewhere. In the housing position, too, the possibility of supply by British manufacturers was made more difficult by the Canadian desire to achieve variety in housing by introducing into one scheme houses of many different textures and types, rather than by minor architectural variations and methods of site lay-out, as adopted in the United Kingdom and elsewhere.

The mission spent five weeks in Canada, visiting all main centres between Montreal and Vancouver and having talks with Ministers of the Federal and Provincial Governments, officials of municipalities, the Federal housing authorities, the National Research Council, Service departments, architects, engineers, industrialists, contractors and educationists in five provinces, in a 6,000-mile tour by road, rail and air.

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The SCOTTISH BUILDER

Plastic Construction for School

A PRIMARY school incorporating cellular plastic panelling in a variety of colours is to be built at a cost of about £100,000 by Edinburgh Corporation. It will be the largest building in Britain so far to demonstate this method of construction. The architects are Messrs. George L. Walls and Duncan, of 14, Great King-street, Edinburgh. Final plans are expected to be approved soon. The building is described on page 660.

Housing Contracts

ABERDEEN HOUSING COMMITTEE has placed building contracts totalling nearly £500,000 for 279 houses, mainly of three and four apartments, at Mastrick housing estate, and for 70 houses at Kincorth. Work on these houses will begin early next year.

Glasgow's New Town

APPROVAL in principle was given on October 21 by the Glasgow Housing Committee to the plan to build a new town at Cumbernauld, some 15 miles to the north-east of the city, to accommodate part of the population overspill which is anticipated in the next few years. The committee also agreed to estimates of £544,480 and £74,995 respectively for the erection of 317 houses at Drumchapel No. 4 unit and 45 houses at No. 2 unit. When completed, Drumchapel, which is on the north-west outskirts of the city, will have 8,000 houses in a self-contained township. It will comprise four units, each with its own churches, schools, shopping centres and cinemas.

NEW BUILDINGS

Arbroath.—Plans prepared by their architects for scheme of houses est. to cost £10,500, which will be erected at Brechin-rd. J. R. Anderson & Co., Ltd., Arbroath.

Ayr.—Plans in hand for alterations, and extensions at St. Andrew's House, for which the architects are Cowie & Terry (F), Wellington-sq., Ayr.

Biggar.—Lanarkshire CC to have plans prepared for a new fire station, for which the architect is William Watt (F), County Offices, Albert-rd., Motherwell-Wishaw.

Brechin.—Plans prepared and approved for new housing scheme, the Corporation Architect being William W. Young, Brechin.

Falkirk.—Corporation to erect 43 houses, est. cost £62,500. The architect is William Gibson (F), Master of Works Offices, The West Bridge, Falkirk.

Fifeshire.—Plans prepared for houses which are to be erected at Lochare by John Reid & Son, Crossgates, Fife.

Glasgow.—Plans prepared for the rebuilding of the war damaged factory at Bognor-rd., Shieldhall, for which the architect is Kenneth F. Masson (F), Scottish Wholesale Co-Operative Society Offices, Paisley-rd., Tradeston, Glasgow.

Glasgow.—Plans prepared for 152 houses which are to be erected at Areas S, T and U, at Garthamlock, for which the architect is Archibald C. Jury (F), Corporation Housing Offices, The Trongate, Glasgow.

Glasgow.—Plans prepared for extensions at the Queenslie Industrial estate for the Scottish Industrial Estates, Ltd. The architects are George A. Boswell, Mitchell & Johnstone, F/ARIBA, 256, West George-st, Glasgow.

Glasgow.—Plans prepared for alterations and additions at the works of the Gourock Ropework Co., Ltd., Helen-st., Govan. The architects and civil engineers are Crouch & Hogg, M/MInstCE, 18, Woodside-cres., Glasgow.

Grangemouth.—Corporation to erect, at an est. cost of £125,000 a new scheme of three- and four-apartment houses. The architect is J. C. Wallace, Master of Works Offices, Grangemouth.

Lanarkshire.—Plans in the hands of their architects for the restoration of their fire-damaged factory at Kerr-st., Bridgeton, for James Templeton & Co., Ltd.

Lanarkshire.—Plans in hand for extensions for Thomson (Law), Ltd., at their pressure works at Wildrum-rd. The architects are Wilson, Hamilton & Wilson (F&F), 153, Oxford-st., Glasgow.

Newarthill.—Plans in hand for extensions to bake-house at the Crosswell Bakery, for which the architect is George Watson, Cardwellside, Drove-rd., Lanark.

Rutherglen.—Plans prepared for new public school to be erected at Spittal, for the Corporation. The architect is John A. Russel (F), Master of Works Offices, Municipal-chbrs., Main-st., Ruthergien.

Stirlingshire.—Plans prepared for new baths for the NCB, to be erected at South Bankaskine Colliery, Falkirk. The architect is W. S. Drysdale (F), Eglinton-cres., Edinburgh.

Stonehouse.—Plans in hand for the erection of 64 houses at the Newfield housing site. The architect is Samuel MacColl (A), County-bldgs., Beckford-st., Hamilton West.

The Builder

FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

NOVEMBER 4.

***†Wandsworth MBC.**—72 flats, 22 maisonettes and nine houses at Southmead housing site, Putney, SW15. TC.

NOVEMBER 5.

***†Plymouth CC.**—(1) Residential home for 36 aged people at Ernesettle; (2) clinic at Montacute-ave., Honicknowle. City A. Dep. £3 3s. each scheme.

NOVEMBER 7.

***†Corby UDC.**—11 shops, shopping hall and maisonettes. G. Blackall, Clerk of Council. Dep. £4 4s.

***†Swansea CBC.**—School, Clase. Boro' A. Dep. £5.

NOVEMBER 9.

***†Enfield UDC.**—Nine flats, junction of Hertford-rd. and Holly-rd. E&S. Dep. £2 2s. Tenders by November 26.

***†Hendon BC.**—Four aged persons' bungalows at "Frith Court," Abercorn-rd., Mill Hill, NW7. BE&S. Dep. £2 2s.

***†Wakefield City C.**—142 houses and flats, Kettlethorpe estate. W. S. des Forges, TC.

NOVEMBER 10.

Preston CBC.—87 houses at Brookfield estate. BE&S. Dep. £2 2s.

NOVEMBER 11.

***†Carshalton UDC.**—Reinforced concrete civil defence building. C. H. Durrant, Clerk.

***Gravesend BC.**—Cemetery cottage at Hartshill-rd., Northfleet. BE&S. Dep. £2 2s.

NOVEMBER 12.

***†Bristol CC.**—Alterations and additions to Merrywood Grammar School. City A. Dep. £2 2s. Tenders by December 14.

***†Bristol CC.**—(1) Henbury secondary school; (2) Laurence Weston primary school; (3) Brislington secondary school. City A. Tenders by (1) December; (2) January 15; (3) February 12.

***†Feltham UDC.**—Electrical wiring to 311 dwellings at Poors Land estate. E&S. Dep. £2.

Leeds CC.—110 dwellings on Tinshill Area 2 housing estate, contract No. 556. City A. Dep. £1.

Magor and St. Mellons RDC.—(a) Eight houses and site works at Llanwern; (b) eight houses and site works at St. Brides, Wentlooge. E. Dep. £2 2s.

NOVEMBER 13.

***Barnsley CBC.**—Six shops with dwelling accommodation over at New Palace housing estate. BE. Dep. £2 2s.

Dolgelley (Merioneth) RDC.—Six houses with site works at Arthog. M. T. Pritchard, architect, Victoria-bldgs. Dep. £2 2s.

NOVEMBER 14.

***Barry BC.**—Advance preparation of Treharne-rd. housing site. E&S. Dep. £2 2s.

***Epping UDC.**—Covered stand, Stonards Hill playing field. S.

NOVEMBER 16.

Mossley BC.—26 houses and 12 flats on the Micklehurst housing site. Howard & Benson, F/FRIBA, 68, Mosley-st., Manchester 2. Dep. £2 2s.

NOVEMBER 17.

***Essex CC.**—Pair of cottages and alteration to farmhouse and cottage, Bower Farm, Havering Atte-Bower, Romford. County Land Agent, 69, Duke-st., Chelmsford.

Llanfyllin (Mon.) RDC.—Six houses and site works on site near Cross Lanes, Llansantffraid (Deytheur). R. Arthur Jones, High-st., Llanfyllin. Dep. £2 2s.

Rowtenstall TC.—20 bungalows at Bacup-rd., Sandy Bank, Waterfoot. BE&S.

NOVEMBER 18.

***Grantham BC.**—58 houses, scheme 34. BS. Dep. £2 2s.

***Hambledon RDC.**—12 dwellings, Hartsgrove housing site, Chiddingfold. E&S. Bury Fields, Guildford. Dep. £3 3s.

NOVEMBER 20.

***Brentford and Chiswick BC.**—Partial construction of new warehouse, Brentford Market. Dodge & Reid, consulting architects, 72, High-st., Brentford. Dep. £2 2s.

NOVEMBER 23.

***Gravesend BC.**—60 houses, Westcourt estate. BE&S. Dep. £2 2s.

***Hitchin UDC.**—52 houses at Westmill estate. Council S. Dep. £2 2s.

Medway CD Committee.—Erection of an underground control centre at Gillingham. BE&S, Gillingham. Dep. £5 5s.

St. Albans RDC.—Erection of 54 dwellings at the Langley-gr. housing estate. Architect, 43, Upper Lattimore-rd., St. Albans. Dep. £2 2s.

NOVEMBER 24.

***Faversham BC.**—24 flats. BS. Dep. £2 2s.

***West Riding CC.**—Sub-divisional police headquarters and five constables' houses and one senior officer's house, Manor-la., Shipley. County A, "Bishopgarth," Westfield-rd., Wakefield Dep. £2.

NOVEMBER 25.

Clutton RDC.—20 houses and sewers at Publow (Pensford). Thomas & Morgan & Ptnrs., 23, Gelliwastad-rd., Pontypridd. Dep. £3 3s.

Fareham UDC.—36 dwellings at Roman-gr. (extension), Porchester. E&S. Dep. £2 2s.

NOVEMBER 27.

***Littlehampton UDC.—Sports pavilion at Norfolk Green. E&S. Dep. £2 2s.

NOVEMBER 28.

***York City C.**—Seven blocks of 8 elderly persons' dwellings, Moor-la. estate. City A, 8, St. Leonard's-pl. Dep. £3.

NOVEMBER 30.

Newtown and Llanidloes RDC.—Six houses at Llangurig. Walter B. Bond, FRICS, surveyor, Windsor House, 49, Calthorpe-rd., Edgbaston, Birmingham, 15. Dep. £2 2s.

DECEMBER 3.

***Birmingham City C.**—Four 2-storey flats, Victoria-rd., Aston. City E&S. Dep. £2 2s.

DECEMBER 7.

***Chester RDC.**—12 houses at Guilden Sutton. T. Easton, ARIBA, 16, White Friars, Chester. Dep. £3 3s.

DECEMBER 11.

***Wellingboro' UDC.**—12 shops, 8 maisonettes, 15 flats and public conveniences at Croyland Hall Farm estate. Blackwell, Storry and Scott, architects, Gold-st. Chambers, Kettering. Dep. £2 2s.

NO DATE.

Worsley UDC.—30 bungalows at Algernon-rd. site, Bolton-rd., Walkden. H. Lomax, clerk, Town Hall, Walkden, Manchester. Dep. £2 2s.

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NOVEMBER 2.

***†Leeds Reg. Hospital Board.**—Remodelling of laundry equipment and services at Scotton Banks Hospital, Knaresborough. A to the Board, Park-parade, Harrogate. Dep. £2 2s. Tenders by November 30.

NOVEMBER 10.

***†Bristol CC.**—Installation of heating, hot and cold water supplies, gas and fire mains at (1) Henbury secondary school; (2) Laurence Weston primary school; (3) Brislington secondary school. Dep. £2 2s. each. Tenders by (1) December 10; (2) January 15; (3) February 10.

***†Bristol CC.**—Heating, and water installations for additions to Merrywood Grammar school. City A. Dep. £2 2s. Tender by December 10.

NOVEMBER 14.

***†Leeds Reg. Hosp. Brd.**—Installation of new boiler plant at St. Luke's Hospital, Bradford. Architect to Board, Park-par., Harrogate. Dep. £2 2s. Tenders by December 15.

NOVEMBER 16.

***Beds CC.**—Roof repairs and re-slating of two 3-storey buildings, Ashburnham-rd., Bedford. County A, Bedford.

MATERIALS, ETC.

ROADS, SEWERAGE AND

NOVEMBER 5.

***†Surrey CC.**—Ambulance station, St. Helier, Carshalton. County A, Kingston.

NOVEMBER 9.

***Bicester UDC.**—Roads and sewers on western development of housing site. L. K. Watson (F), 6, Gray's Inn-sq., London, WC1.

NOVEMBER 11.

Swale RDC.—About 980 yds. sewer. E&S. Dep. £2 2s.

NOVEMBER 12.

***†West Mersey UDC.**—Road, sewer and five pairs of houses, Windsor-rd. Sparrow & Clater, architects, 7, North-hill, Colchester. Dep. £2 2s. Tenders by November 27.

NOVEMBER 14.

Dewsbury CB.—Roads and sewers on the Overthorpe-rd. housing site. BE&S, Municipal-bldgs., Halifax-rd. Dep. £2 2s.

NOVEMBER 16.

Epsom and Ewell BC.—Road and sewers at Tonstall-rd. BE&S. Dep. £2 2s.

Wetherby RDC.—About 1,530 lin. yds. water mains at Scarcroft and Thorner. A. Harlow, Clerk of Council.

NOVEMBER 17.

***†Ealing BC.**—Repair, reinstatement and improvement of drains at Hanwell community centre. BS. Dep. £2.

NOVEMBER 20.

Wanstead and Woodford BC.—Roads and sewers at Whitehall-rd. and Whitehall-la. BS. Dep. £2 2s.

NOVEMBER 21.

Manchester TC.—Leestone-rd. extension, Shentonfield-rd. and Carrsfield-rd., Sharston. City S, Town Hall. Dep. £2 2s.

NOVEMBER 23.

Birkenhead CB.—Site clearance and roads and sewers on the Woodchurch estate. Boro' A, "Menlo," Wexford-rd., Birkenhead. Dep. £3 3s.

NOVEMBER 27.

Cookham RDC.—About 2,500 lin. yds. sewers, pumping station and sewage disposal works. H. Humphreys & Sons, engineers, 191, Victoria-st., Westminster, SW1. Dep. £3 3s.

Thedwastre RDC.—Water supply scheme. Main-laying—contract No. 9. Lemon & Blizard, engineers, 59, Tufton-st., Westminster, SW1. Dep. £5 5s.

NOVEMBER 30.

Cheltenham BC.—Laying of cast-iron pipes, together with fittings and appurtenant works, at points between Churchdown reservoir and Badgeworth. BWE, Municipal Offices, Cheltenham. Dep. £5 5s.

Louth BC.—100,000 gall. r.c. storage reservoir, pumphouse and about 700 yds. rising main, contract No. 2. J. H. Haiste & Ptnrs., engineers, 4, Queen-st., Woodhouse-la., Leeds 2. Dep. £2 2s.

DECEMBER 8.

Norwich TC.—Construction of first stage of new sewage disposal works. City E, City Hall, Norwich. Dep. £5 5s.

DECEMBER 14.

Huntingdon BC.—Sewerage scheme, contract No. 2. J. D. & D. M. Watson, consultant engineers, 18, Queen Anne's Gate, Westminster, SW1. Dep. £10 10s.

NO DATE.

Border RDC.—Improvements to the Roughton Grill water supply. C, 7, Victoria-pl., Carlisle. Dep. £2 2s.

GENERAL BUILDING WORK

(LONDON)

Battersea.—DWELLINGS.—Hsg. Com. recommend the approval of an estimate of £23,283 for the erection of 12 dwellings on the site of Nos. 12-24, Brynmaer-rd.; also an estimate of £24,601 for the erection of 12 dwellings at site of Nos. 136-142, Wycliffe-rd. Plans were prepared by Boro' A.

Dagenham.—SITE ACQUISITION.—BC are to acquire for housing purposes land at New-rd. opposite the "Anglers' Retreat"; land in Rainham-rd. South; the "Woodlands," Rainham-rd. North; and land at Dover-rd./Eagle-ave.

Deptford.—DWELLINGS.—MH&LG has given loan sanction to MBC for borrowing of £10,203 for the erection of dwellings on the Napier-st. housing site.

Hackney.—MAISONETTES AND FLATS.—MBC are recommended to approve the development of the Chailey-st. housing site, bounded by Mildenhall-rd., Chailey-st. and Millfields-rd., by the erection of eight maisonettes and 33 flats at total estimated cost of £101,000. The scheme was prepared by Boro' A.

Hackney.—FLATS.—TP Com. recommend BC's approval to the erection of 20 flats on Cecilia-rd. housing site, at total estimated cost of £44,850. Boro' A prepared the plans.

Hackney.—FLATS.—The erection of six flats on the Oswald-st. housing site, at total estimated cost of £12,750, has been recommended by TP Com. Plans were prepared by Boro' A.

Hackney.—SITE ACQUISITION.—MBC are to compulsorily acquire a site in Ferron-rd. at rear of Nos. 48-56, Kenninghall-rd., for housing purposes.

Hayes and Harlington.—HOUSING AND SHOPS.—UDC propose the erection of 50 houses and 6 shops at Barnhill estate.

Holborn.—OFFICES.—The erection of an office block at 120-124, Theobalds-rd. is proposed by Electra (Westminster) Property Investment Co., Ltd., 33, King William-st., EC4.

Ilford.—DEPARTMENTAL STORE.—The erection of a departmental store at 113-119, High-rd. is proposed by Littlewoods Mail Order Stores, Ltd., 213, Oxford-st., W1.

Lambeth.—APPOINTMENT.—Hsg. Com. recommend the appointment of Howes and Jackman, FF.RIBA, 1, Verulam-bldgs., Gray's Inn, WC1, as architects, and E. C. Harris and Partners, 3, Bedford-sq., WC1, as quantity surveyors, in connection with the development of site No. 32, Tulse Hill.

Shoreditch.—DEVELOPMENT.—TP Com. recommend the approval by BC of the development of the Windsorter./Wellesley-ter. area by 40 flats. Scheme was prepared by Boro' A.

Stoke Newington.—FLATS.—A scheme has been prepared for BC by Howes & Jackman, FF.RIBA, 1, Verulam-bldgs., Gray's Inn, WC1, for the erection of 90 flats on a site consisting of Nos. 35-61 (odd), Lordship-rd., Nos. 1-9 (odd), Grazebrook-rd., Nos. 1-8 (cons), Lordship-gr. and land at the rear thereof. The architects have also prepared a scheme for the erection of 20 flats on a site consisting of Nos. 119-125 (odd) and No. 125a, Queen's-dr. with land at its rear. A detailed scheme is to be submitted for BC's approval by the same architects providing for the erection of 63 flats on a site consisting of Nos. 146-156 (even), Lordship-rd., No. 123, Manor-rd., and land at rear of Nos. 1-21 (odd), Grayling-rd. BC is recommended to acquire these sites.

Stoke Newington.—APPOINTMENT.—Hsg. Com. recommend the appointment of E. C. Harris & Partners, 3, Bedford-sq., WC1, as quantity surveyors in connection with the erection of 27 dwellings on the Defoe-rd./Brodia-rd. site.

Stoke Newington.—LIBRARY.—The architects for the erection of a new branch library at Woodberry Down are Gold and Aldridge, 42, Church-st., Baldock.

Strand.—CHURCH REINSTATEMENT.—W. A. S. Lloyd, MBE, FRIBA, 5, Pickering-pl., SW1, is the architect for the proposed reinstatement of St. Clement Danes Church.

Uxbridge.—DWELLINGS.—Erection of 61 dwellings in Corwell-la., Hillingdon, is proposed by H. E. G. Stripp, surveyor, 263, High-st.

Watford.—HOUSES.—RDC propose the erection of 90 houses on site at Cecil Lodge, Abbots Langley. Architects are Dawe, Carter & Partners, 33, Clarendon-rd.

Westminster. — SHOWROOM. — Ronald Ward & Partners, 17, Lowndes-st., SW1, are architects for the proposed export showroom at Devonshire House, Piccadilly, for Cootes, Ltd. Interior decorator is Godfrey Bonsack, 25, Davies-st., W1.

Wimbledon.—HOUSING.—BS has submitted plans showing the proposed layout of land at Queensmere-rd. for housing purposes. The scheme provides for use of five existing properties and erection of 38 houses and 16 cottages for elderly persons.

Wimbledon.—ASSEMBLY HALL.—BC has provisionally approved an application by the British Red Cross Society (Wimbledon Division) for permission to erect assembly hall, incorporating kitchen and cloakroom accommodation, at rear of 26, Worple-rd.

Woolwich.—FLATS AND MAISONETTES.—BC have approved a scheme for 75 flats and maisonettes at Keightley-dr., New Eltham.

(PROVINCIAL)

Accrington.—TC approved scheme for erection of pithead shower baths at Scaitcliffe Colliery for National Coal Board.

Alnwick.—RDC plan erection of houses at Boulmer.

Barnard Castle.—RDC to purchase land at Cockfield for erection of 40 houses. Council's A, J. Lawton, Galgate, Barnard Castle.

Birkenhead.—TC to invite tenders for auxiliary fire station at Salisbury-st.

Birmingham.—Methodist Auth. propose erection of church and schoolroom on site of existing building at Northfield; £50,000 est. Work to commence next spring.—At rear of church will be schoolrooms, and concert hall capable of seating 250 people.

Bolton.—EC propose adaptations to buildings at Thomasson Memorial Residential Spec. sch., £29,330 est.

Bolton.—TC to approve plans for eight houses at Louvaine-av. for A. D. Primrose, 556, Halliwell-rd.; erection of 10 houses at Red-la. and Newby-rd. BC considering scheme for development of site at Manchester-rd. as industrial site.

Brierley Hill.—Worcs. CC propose Assembly Hall and scullery at Technical School, £10,000 est.

Brierley Hill.—Parochial Chuch C propose new hall at Hawbush-rd., £10,000 est.

Brighton.—TC to build extension to factory at Hollingbury, for Leytonstone Jig & Tool Co., Ltd.

Bromsgrove.—Worcs. EC appointed Yorke, Rosenberg & Mardall as architects for new grammar sch. and College of Further Education, between Alcester-rd. and Burcot-la.

Burnley.—TC to prepare plans for old people's hostels at Healey Hall and St. John's Vicarage.—BC to negotiate with George Wimpey & Co., Ltd., London, for erection of further 20 houses on Far Brunshaw Estate.

Bury.—TC propose 20 aged persons' flats at Redvales site.

Canterbury.—CC to offer site of old Guildhall to Abbotts (Phit-Eesi), Ltd., for building, cost £25,000, and MoW has stated that licence will be forthcoming early next year.

Carlisle.—TC approved plans for extension of Old Brewery, Caldewgate, for the Home Office.—Seek Min. approval to amended plans for proposed crematorium.

Carlisle.—City C seek Min. sanction to build assembly hall.—City C received sanction to let contracts for 190 houses. Not more than 140 to be started this year.—CC to build another 100 "Easiform" houses at beginning of next year. City E, L. J. A. Stow, 18, Fisher-st., Carlisle.

Cheshire.—EC approved plans for new hostel at Crewe County Training College, £79,226 est.—To accept tenders in November for Cheadle Hulme Ladybridge Co. Prim. Sch. and Little Sutton Co. Jun. Sch.

Chesterfield.—TC propose following houses during next two years: 420 at Revensey Estate; 400 at Old Whittington; and further 50 at Boythorpe.

Chester-le-Street.—RDC plan the erection of three-storey flats in frontage of Elizabethville housing estate, Birtley. Council's A. F. Bowman, Estate Office, Birtley.

Coventry.—EC propose following schs. in 1954/6 programme:—Caludon Castle comp., £740,000; Central College of Art and Technology, £220,000; Woodlands comp. sec., £145,000; Whitley Abbey comp. sec., £130,000; comp. sec. at Green Farm, £190,000; Foxford comp. sec., £225,000; Coundon Court sec., £110,000; Chace prim., £50,000; new building for City of Coventry Training College, £240,000; minor capital works, £40,000; two school-meals projects, £40,000; new open-air sch., £100,000; hostel for maladjusted children, £10,000; sec., Cannon Park, £150,000; RC sec., Keresley, £60,000; RC prim., £45,000; prim., Ten Shilling Wood, £45,000; and another sch., £50,000.—TC seek approval for fire stn. at Fletchamstead Highway.

Coventry.—TC propose adaptations of No. 56, Kenilworth-rd., as hostel for maladjusted children.

Cumberland.—Contract to be let by CC for erection of rural police stn. at Flimby. Cty. A, J. H. Haughan, Portland-sq., Carlisle.

Darlington.—TC received loan sanction at £36,080 for erection of 26 houses on Firth Moor estate; and £45,241 for erection of 32 houses at Firth Moor.—Plans approved for erection of groups of 32 houses, 60 houses and 108 "Unity" houses on Firth Moor estate.—Darlington Co-op. Soc., Ltd., to erect new shop and store in West Auckland-rd.—Plans to be prepared for Anglican Church at Newton Aycliffe. It is hoped to start building early next year. Rev. T. A. Drewette, Newton Aycliffe, curate-in-charge.

Darwen.—TC seek approval for further 50 houses.

Durham.—CC approved plans for children's home at new town of Peterlee. Plans of Cty. A, G. R. Clayton, Court-la., Durham.

Ellesmere (Salop).—RDC propose 20 houses at Baschurch and 12 each at Nesscliffe and Dudleston.

Felling (Co. Durham).—Wetherell & Lamb, "Tweedholme," Picton-pl., Newcastle-on-Tyne, architects for proposed licensed premises in Sunderland-rd., for J. Rowell & Son, Ltd., 143, High-st., Gateshead.

Fleetwood.—TC propose alterations and improvements to Marine Hall. Architects, MacKeith, Dickinson & Partners, Empress-bldgs., Church-st., Blackpool.—BC propose negotiating tender with Fleetwood Construction Co., Ltd., for further 50 houses on West View estate.

Fylde.—RDC S to prepare plans for eight aged persons' bungalows at Staining.

Gateshead.—J. G. Cowe & Son, Central-chbrs., Chester-le-Street, architects for alterations and additions to mineral water factory in King-st., for Fentiman's Direct Supply Co., Ltd.—Vaux & Associated Breweries, Ltd., The Brewery, Sunderland, to carry out alterations to "Half Moon" public-house and have prepared their own plans.

Gateshead.—TC to consider building proposed Oakfield prim. sch. in "Orlit" construction.

Haslingden.—TC to prepare layout for 16 flats fronting Manchester-rd.

Hebburn-on-Tyne.—UDC TP Com. has approved revised layout plans for Monkton-la. estate providing for 82 houses, 54, 36 bungalows and 68 flats. Plans by R. C. Bestow, S.

Hebburn-on-Tyne.—UDC to build 240 houses on Monkton-la. estate, by direct labour. R. C. Bestow, S.

Hexham.—During next five years it is proposed to spend £10,000 on repairs to Hexham Abbey. Rector, Rev. A. G. Hardie.

Heywood.—BC negotiating for site at Summit for 60/80 houses, and propose further houses on westerly side of site at Sussex-av. and Essex-av.

Hoole.—Congregational Church Auths., Walker-st., propose erection of church building on main Chester/Warrington-rd., est. cost over £10,000 (Rev. Leslie Haywood).

Leigh.—Governors of Holy Family RC Sch. propose youth centre adjacent to their premises. (Rev. Father T. Byrne.)

Longbenton.—UDC plans 250 houses next year. S, A. E. Sweetman, Forest Hall, Newcastle-on-Tyne.

Market Drayton.—RDC propose erection of further 20 houses at Hodnet, and six at Langley Dale.

Middlesbrough.—Contract to be let shortly by Newcastle Reg. Hospital Brd., Osborne-rd., Newcastle-on-Tyne, for proposed X-ray and superficial therapy department at Carter Bequest Hospital. Board's Chief A, P. H. Knighton, ARIBA.

Morpeth.—Gynæcological unit proposed at Morpeth Cottage Hospital by Newcastle Reg. Hospital Brd., "Dunira," Osborne-rd., Newcastle-on-Tyne. Board's Chief A, P. H. Knighton, ARIBA.

Newcastle-on-Tyne.—City C recommended to spend £39,000 on immediate improvements to Woolsington Airport. City E, P. Parr.—City C received Ministry approval to expending of £327,351 on development of Kenton & Fawdon housing estates. City A, G. Kenyon, 18, Cloth-market; store extensions are proposed in Leazes Park-rd., for J. & N. Burrell, to plans by D. R. Wood, Jedburgh-gdns.—M. A. Mackenzie, 1, Eldon-sq., architect for store at The Close, for J. T. Dove, Ltd., builders' merchants.—Carr & Kirk, builders, Stocksfield-ave., Newcastle, to erect 12 houses in Bavington-dr., etc., to plans by Dryden & Shaw, 6, Market-st.—City C to erect 108 flats in Fawdon-la. area to plans by City A, 18, Cloth-market, Newcastle.

Newcastle-under-Lyme.—EC received approval for inclusion in 1954/5 programme of first instalment of Sec. Mod. Sch. on Kempstalls site.—BC propose 34 houses and four maisonettes at Mount Pleasant-rd., Hollows Farm.—BC approved plans: fabricating shop at Porthill for Messrs. Jesshope, Ltd.; 14 houses at Boulton-st. for G. L. D. Bates; erection of warehouses, garage and offices at Bridge-st. for R. M. Fireplaces, Ltd.; research laboratory at Brampton Hill, The Brampton, for G. N. Downing & Co., Ltd.

Northampton.—RDC propose following houses during first half of 1954:—12 at Ashton, 25 at Bugbrooke, six at Collingtree, 89 at Hardingstone, 68 at Harpole, 12 at Hartwell, 70 at Nether Heyford, four at Little Houghton, 60 at Roade, 12 at Rothersthorpe, 42 at Wootton. Following during second half of 1954:—74 at Billing, 36 at Brafield, 20 at Denton.—Propose further 170 houses on various sites in 1955.

Oldham.—BC seek approval for construction of super central swimming bath. Plans by BE, A. L. Hobson.

Ploughley (Oxon).—RDC hope to build 12 houses on Bucknell No. 3 site, cost £19,920, revised contract to be carried out by W. A. Price, Bicester. Negotiations to be made for tender to build 112 houses, and of proposed lay-out 198 Unity dwellings at Evans-la., Mill-st., Bicester-rd. site, Kidlington. Planning approval already obtained. Ministry agreed to erection of 24 Unity houses at Shipton-on-

Cherwell No. 3 site. RDC to apply for loan £33,361 to carry out programme. RDC granted Taylor Woodrow Homes, Ltd., licence for further 10 houses on Oxford Garden City Estate, and to consider further 52 houses on estate.

Preston.—TC propose hostel for aged in Gammull-la., £25,500 est.

Rochdale.—Chesterfield, Ltd., propose rebuilding premises at 152/4, Yorkshire-st.

Rotherham.—RC Auths. propose new Church of St. Mary Immaculate at Herringthorpe Valley-rd., £16/£20,000 est.

Rowley Regis.—TC propose repairs to Tudor House, Hidden Hill Park, Old Hill.

Runcorn.—RDC to erect 47 houses at Lumb Brook for MOS employees.

Salford.—Hsg. Com. propose acquisition of 11 acres land between Regent-rd. and Oldfield-rd., for possible development 300 flats and houses.

Stafford.—BC to negotiate with George Wimpey & Co., Ltd., London, for 300 " No Fines " houses at Highfields Estate.

Staffs.—CC propose extensions to Caverswall cty. sec. sch.

Stanley.—UDC purchased site of burned-out Theatre Royal for proposed bus stn. S, J. R. Heslop.

Stanley.—UDC propose to convert market hall at Annfield Plain into civic hall and theatre. S, J. R. Heslop.

Stockport.—BC preparing detailed plans for police buildings between Town Hall and Hillgate.

Stockport.—TC seek Min. approval for erection of branch library in conjunction with third block of shops on Brinnington Estate.

Stockton-on-Tees.—Jarman & Flint, Ltd., West-row, propose warehouse of over 10,000 sq. ft.

Stoke-on-Trent.—EC received Min. approval for cty. sec. sch. at Bentilee.—Propose expenditure of £45,650 for erection of additional accommodation at existing schools, and £45,000 for minor improvement works.

Sunderland.—Mayfair Products, Ltd., Low Row, Sunderland, acquired premises of Robinsons (Sunderland), Ltd., at Grangetown, which are to be adapted as a factory.—Hsg. Com. propose to build 33 houses for disabled people. Plans by Boro' A, H. C. Bishop, Grange House, Stockton-rd.—Newrick & Blackbell, John-st., architects for proposed club at junction Thorndale-rd./Trent-rd., for Thorney-cl. Workmen's Club and Institute, Ltd., and shop extensions in Blandford-st., for Knightall Furnishings, Ltd.—Plans by H. C. Bishop, Boro' A, for prim. sch. and scullery at Springwell-rd., for EC approved.

Todmorden.—Ubicon, Ltd., submitted layout for completion of Harley Wood Estate, and are to obtain tenders from local contractors.

Tynemouth.—Corp. to convert former C of E chapel at Preston Cemetery into crematorium. Boro' S, D. M. O'Herlihy.—TC to consider plans for repairing fish quay at North Shields, est. cost £100,000.

Washington (Co. Durham).—UDC to consider proposal for converting Washington Old Hall into community centre.

Wednesbury.—TC to negotiate with S. J. Smith & Co. (Bidford), Ltd., for erection of 76 houses at Nesty Croft and 126 at Millfields Estate.—Approved plans for church hall at Paul-st. for St. Luke's Church. Architects, Lavender, Twentyman & Percy, 2, Waterloo-rd., Wolverhampton.

Wheatley Hill (Co. Durham).—Alterations and repairs to be carried out to Church-st. Methodist Church. Particulars from A. Kirk, 8, Stanhope-st., Wheatley Hill.

Whitby.—Subject to MH&LG approval, UDC to sell land on White Leys estate to CWS, Ltd., for proposed creamery.

Whitefield.—Managers of Methodist sch., Elms-st., propose large extensions to premises.

Whitehaven.—Sketch plans prepared for proposed additions to orthopædic department at Whitehaven and West Cumberland Hospital, for Newcastle Hospital Bd., Lonsdale-st., Carlisle.

Wigan.—TC seek loan £62,348 for erection of shops and flats at Worsley Hall Estate.

Woodbridge.—UDC propose to erect 28 houses on 2½ acres land south of Peterhouse Estate.

Workington.—BC approved plans: New offices, extensions and alterations to existing, and erection of laboratory at Moss Bay Works, for Workington Iron & Steel Co., Ltd.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Aberdeen.—Houses, for Corporation: 147, *A. Hall & Son, Aberdeen, £207,523. 100, *D. C. Stewart, Ltd., Aberdeen £149,288.

Aberdeen.—Plans prepared for extensions at the Oxford Laboratories, for Moss Medical Products, Ltd., Berryan-rd. Thomas Scott Sutherland & Partners (F&A), architects. The Terrace, Great Western-rd., Aberdeen: *Broomhill Industries, Ltd., Aberdeen.

Aberdeen.—Erection of 64 houses at the Kincorth housing site. Alexander B. Gardner (A), architect, Council Offices, Broad-st., The Castlegate, Aberdeen. Excavation, brick, building, concrete and allied works: *Joseph Sherras & Son, Ltd., £76,507, and *S. R. Russel & Son, Ltd., £58,499. Plumbing, sanitary engineering and allied works: *Andrew MacRobb, Ltd., £14,295. Joinery, carpentry, ironmongery and allied works: *Coutts & Frazer, Ltd., £30,466. (All of Aberdeen.)

Auchinlock.—New housing scheme at the Langmuirhead site, for Lanarkshire CC. Samuel MacColl (A.), architect. County-bldgs., Beckford-st., Hamilton West. Excavation, brick, building and allied works: *Allan Bros., Ltd., Chryston, £8,503. Joinery, carpentry, glazing and allied works: *David Wilkinson & Sons, Ltd., Chryston, £5,188. Plumbing, sanitary engineering and allied works: *David Kirk, Ltd., Coatbridge, £2,603. Plaster, lathing, cement and allied works: *Charles Wilson (Glasgow), Ltd., Glasgow, £792. Roof tiling, roughcasting and allied works: *John Wallace & Sons, Ltd., Chryston, £1,111. Electrical fittings, installation and allied works: *D. Henderson & Sons (Electricians), Ltd., Glasgow, £562. Painting, decorating and allied works: *William MacDougall, Bellshill, £420.

Blackrod.—56 dwellings on section 7 of the Half Acre housing scheme, for UDC: *J. Gaffney & Son, Whelley, Wigan, £79,657.

Bolton.—Adaptations at Smithills Hall Hostel, for BC: *Direct labour.

Bootle.—Erection of infants' department at Netherton Moss c.p. sch., for EC.: *Hy. Boot & Sons, Ltd., Heysham-rd., Liverpool, £38,175.

Bradford.—242 houses and 50 flats at Delf Hill estate, for TC: *John Laing & Son, Ltd., London, £485,501. 295 dwellings at Halifax-rd. estate, scheme " A ": *Direct labour, £419,698.

Brighton.—120 experimental type houses off Birdham-rd., for TC: *T. J. Braybon & Son, Ltd., Brighton, £181,164.

Carlisle.—Houses at Harraby estate, for TC: 100, 8 shops and flats: *John Laing & Son, Ltd., Dalston-rd., Carlisle, £122,983 and £28,349. 40, *Barwick Bros., Alpha Mount, Gilsland, £49,883. 30, *J. F. Johnston, Byron-st., Carlisle, £37,392. 20 bungalows, *H. Cartner & Son, 7, Hart-st., £17,921.

Cheshire.—Erection of Middlewich cty. jun. sch., and Wistaston Green cty. jun. sch., for CC: *Bristol Aeroplane Co., Ltd., Weston-Super-Mare, £50,536 and £50,534.

Dukinfield.—96 houses at Yew Tree-la. site, for TC: *Kenyon Construction Co., Ltd., Manchester.

East Ashford.—Ten bungalows and six houses at Wye, for RDC. K. A. Pilkington, S. Quantities by Jocelyn R. Douglas:—

W. P. Woodgate, Ltd., High Halden, nr. Ashford	£29,767
S. Vant & Son, Ltd., Folkestone	29,534
J. & M. Smith (Ashford), Ltd., Ashford	28,975
S. J. Clark, Ltd., Folkestone	28,899
Leppers, Ltd., Ashford	28,700
G. Parker & Sons, Ltd., Peckham, SE15	28,575
R. Costain, Ltd., Canterbury	28,480

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*J. J. Clayson & Sons, Ltd., Lyminge, nr. Folkestone 28,169

Gateshead.—Erection of a clinic at Carr Hill, for TC. BE, G. F. Winters: *C. S. Hogg (Builders), Ltd., Two Ball Lonnen, Newcastle-on-Tyne, £15,643.

Halifax.—Extensions at Mixender c.p. sch., for TC: *J. Walker & Sons, Ltd., Highroad Well, Halifax, £29,234.

Hartlepool.—Erection of a footbridge at Milbankcres., for TC: *Clarence Erection Co., Ltd., West Hartlepool, £6,130.

Hebburn.—Erection of 240 houses on the Monkton Hall site, for UDC. Council S, R. C. Bestow: *Direct Labour.

Hull.—Construction of the superstructure of the Triangle Development Trust's block of offices and shops between King Edward-st., Savile-st. and Jameson-st., Hull: *Spooner (Hull), Ltd.

Hyde.—192 dwellings at Dukinfield-rd. estate, for TC: *Vessey Bros., Ltd., Marple, £288,391.

Islington.—57 dwellings at Whadcoat-st., for BC. E. C. P. Monson (A&A). Quantities by O. E. Parratt, FRICS:—

W. J. Simms, Sons & Cooke, Ltd., W1	£115,986
H. J. Walker & Sons, Ltd., Bristol	114,877
Marples, Ridgway & Partners, Ltd., SW1	113,204
Gee, Walker & Slater, Ltd., W1	110,209
F. Bilton, Ltd., SW2	109,240
Rowley Bros., Ltd., N17	108,415
J. Murphy & Sons, Ltd., N4	104,938
M. Howard (Mitcham), Ltd., Mitcham	103,897
*Wesley Builders, Ltd., 9, Wesley-ave., NW10	103,371

(Subject to Ministry approval.)

Jarrow.—Erection of county library at Jarrow, at a cost of £10,000: *Tarslag, Ltd., Stockton-on-Tees.

Liverpool.—12 flats at Titchfield-st., and 6 flats at Cornwallis-st., for TC: *Peak Construction Co., Ltd., Birkenhead.

¶London (Admiralty).—Particulars of contracts placed by Civil Engineer-in-Chief's Dept., Admiralty:—

RNAS, Eglinton: One officer's house, James V. Loughrey, 31, Irish Green-st., Limavady, Northern Ireland. *Deanfield, N. Ireland*: 21 officers' houses, W. & J. Taggart, Dunluce-st., Portrush, Co. Antrim. *Wetherby*: 22 ratings' houses and guard room, F. Shepherd & Son, Ltd., Blue Bridge-la., York. *Blyth*: Construction of dolphins and piling work, Purdie, Lumsden & Co., 25/27, Oxford-st., Newcastle-on-Tyne 1. *Baverstock*: Roofing, Walker Bros., Ltd., Victoria Ironworks, Walsall, Staffs. *RNAS, Yeovilton*: Asphalt surfacing to flat roofs, Western Asphalte & Tar Paving Co., Ltd., Westbury Court-rd., Westbury-on-Trym, Bristol. *Baverstock*: Internal and external painting, M. A. Appleton, Ltd., Bilston-st., Wolverhampton.

¶London (Air Ministry).—Contracts to value of £500 or over for week ended October 24:—

Building Work: A. Schofield (Builders), Ltd., " St. Bides," Atwick-rd., Hornsea, E. Yorks; R. M. Phillips & Son, Ltd., Estate Yard, Brigg, Lincs.; R. Corben & Son, Ltd., 2, Pelham-st., Hastings, Sussex; Daniel Day & Son, Bonchurch, IOW.

Hutting: Scottish Aviation, Ltd., Prestwick Airport, Ayrshire. *Runway Construction, etc.*: Lavender McMillan, Ltd., 54, Cheam Common-rd., Worcester Park, Surrey. *Ventilating Services*: Industrial & General Engineering Co., 46, Blandford-st., London, W1. *General Maintenance Work*: Henry T. Hill & Son, Ltd., Bridge-rd., Farnborough.

London (British Railways).—Contracts placed by the Eastern Region of British Railways:—

Provision of 70-ft. locomotive turntable at Cleethorpes Station: *Cowans, Sheldon & Co., Ltd., Carlisle.

¶London (War Dept.).—Contracts placed by WD during week ended October 17:—

Sussex: Building, J. B. Edwards & Co. (Whyteleafe), Ltd., Kenley. *Leicestershire*: Building work, William Corah & Son, Ltd., Loughborough; Road repairs, Thos. Parker & Sons, Loughborough. *Yorkshire*: Roof repairs, Maurice Hill, Ltd., Bedhampton. *Northumberland*: Road repairs, W. & J. Glossop, Ltd., York. *Lancashire*: Roof repairs, H. & W. Parker, Leeds. *Hampshire*: Building, Campbell & McGill, Ltd., Winchester. *Middlesex*: Building work, H. D. Bowyer, Slough. *Essex*: Painting, J. W. Druce & Co., Ltd., London, SE6.

Martley.—14 houses and site works at Great Witley, Worcs, for RDC. E. Turner, 1, The Tything, Worcester. Site works: *Ankerdine (Public Works), Ltd., 22, Foregate-st., Worcester, £3,988. Houses: *The Titford Property Co., Ltd., Langley, nr. Birmingham, £17,677.

Mickley.—Modernising ten aged miners' homes at Mickley, Northumberland: *W. Charlton, Crawcrook, nr. Blaydon-on-Tyne.

Middlesbrough.—Erection of 12 houses in Glenfield-dr., for TC: *W. Egerton Price, Middlesbrough, £19,458.

Middlesbrough.—Erection of 12 houses in Ministerley-dr. Architects: Garbutt, Archibald & Archibald, 23, Albert-rd., Middlesbrough: *E. T. Sweeting & Son, Ltd., Back Haymore-st., Middlesbrough.

Nelson.—60 houses at Marsden Park estate, for TC: *Direct labour, £80,496.

Newcastle-on-Tyne.—Erection of 38 houses in Stokesley-grove, etc., and 16 houses at Whitton-pl. Architects, Marshall & Tweedy, 36, Blackett-st., Newcastle: *Wilkinson Bros., High-st., Gateshead.

Newcastle-under-Lyme.—62 houses and 8 maisonettes, for BC: *Cornes Construction Co., Ltd., Stoke-on-Trent. 22 houses: *Phillips Bros., Ltd., Newcastle.

Newmains.—Erection of 38 houses at the Bonkle housing site, for Lanarkshire CC. Samuel MacColl (A), architect, County-chbrs., Beckford-st., Hamilton West: *Atholl Houses, Ltd., Glasgow.

Ogmore and Garw.—Twenty-eight flats at Glynllan

site, for UDC. W. Harris, E&S, Council Offices, Brynmenyn, nr. Bridgend: *Rees Jones & Sons, Ltd., Coychurch, Bridgend, Glam.

Plymouth.—31 houses at Crownhill North housing estate, for TC. H. J. W. Stirling, ARIBA, City Architect, Seymour-rd., Plymouth: *J. W. Spencer, Ltd., St. Lawrence-yard, North Hill, Plymouth, £41,531.

Rochford.—14 houses at Bakers Grave, Barling Magna, for RDC. E&S. D. C. Denton Smith & Partners, architects, 40, Regent-st., Cambridge.

Cripps Bros., Ltd., Rochford	£21,257
R. O. D. Construction Co.	21,155
Ellis & Sons (Hawkwell), Ltd., Hawkwell	20,336
S. Tyler	18,973
*French & Egerton, Ltd., 8a, Milton-st., Southend	18,911

Rothbury.—Erection of new business premises for the Tweedside Co-operative Society, Berwick. Architects, Reavell & Cahill, Lloyds Bank-chbrs., Alnwick: *B. Peel, Ltd., East Mill Works, North Shields.

Rotherham.—Houses, for TC, at Kimberworth Park estate: 32, *C. Earnshaw (Rotherham), Ltd., 35, Cokela., £38,024. 14, *Cooper & Kimber, Wood-la., Wickersley, £16,355. 14, *A Cooper & Sons, 32, Church-st., Greaseboro, £17,907.

Salford.—Four police houses at Doveleys-rd. and two at Eccles Old-rd., for TC: *Direct labour, £9,374. and £5,329.

Saltburn and Marske-by-the-Sea.—Three shops and five domestic premises on Marske-rd. estate, Saltburn for UDC. C. D. Taylor, LRIBA, 41, Baxtergate, Whitby. †R. E. Cryer, Ltd., 3, Redcar-ave., Longbeck Estate, Marske-by-the-Sea, Yorks.

Scarborough.—Erection of public conveniences to serve William-st. coach park, for TC. BE, H. V. Overfield: *H. Readman, Ltd., Middlesbrough, £5,039.

Seaham.—24 houses on the Glebe estate. Architects J. Potts & Son, 57, John-st., Sunderland: *W. Tomlin & Son, South-cres., Seaham.

Sunderland.—Erection of 26 houses in Greystoke-ave. Architects, C. T. Brown & Son, Fawcett-st., Sunderland: *G. H. Plemper, Ltd., St. Hilda's Works, Old Chester-rd., Sunderland.

Sunderland.—Erection of 88 houses for TC: *Wigham & Son, Hylton, Sunderland (22); *J. W. Ridley, Ltd., Sheepfolds, Sunderland (66).

Thorniebank.—Plans in hand for new factory for the Industrial Estates, Ltd. Watson, Salmond & Gray (F&A), architects, Central Station-bldgs., Union-st., Glasgow: *Melville, Dundas & Whitson, Ltd., Glasgow.

Tynemouth.—Erection of 11 military officers' houses at Tynemouth. Architects, Cackett, Burns Dick & McKellar, 21, Ellison-pl., Newcastle-on-Tyne: *Alex Anderson, Ltd., Stanmore-rd., Newcastle-on-Tyne.

Uttoxeter.—Further 46 houses at Copes Farm estate, for UDC: ‡O'Dair Bros., Ltd., Uttoxeter Old-rd., Tean.

West Hartlepool.—Erection of 60 flats, for TC: *C. M. Yuill, Ltd., Villiers-st., West Hartlepool.

West Lancs.—38 houses at Moorhey-rd., Maghull, for RDC: *Mr. J. R. Ruddock, Liverpool, £56,057.

Yeovil.—Erection of 24 Unity houses at Larkhill estate, for TC: *Robert Bros. (Contractors), Ltd., £29,238.

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